MOBILE DATA BACKUP
Mike Elgan says road warriors can prevent data disasters by putting USB flash drives in their pockets.

POWER UP
Storm-driven outages put onus on IT to make sure it can fuel data centers.

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JANUARY 8, 2007 • VOL. 41 • NO. 2 • $5/COPY

DOJ Pushes To Broaden Data Sharing

Agency will use central database to make crime info widely available

BY TODD R. WEISS

The U.S. Department of Justice is pushing the FBI and its other operating units to speed up and expand their efforts to share a wide array of crime information with outside law enforcement agencies via a centralized database called OneDOJ.

In a Dec. 21 memo, Deputy Attorney General Paul J. McNulty also directed CIO Vance Hitch to work with all of the DOJ's component agencies to develop "an aggressive but practical plan" for increasing their information-sharing capabilities. The plans, which must be submitted to McNulty's office by Feb. 9, will include steps that can be taken within the next 180 days to enable the units to participate more fully in seven ongoing data-sharing initiatives.

In addition, McNulty assigned Hitch to a new committee that will coordinate the DOJ's information-sharing program. And he said in the memo that the coordinating committee and his staff will work with Hitch's office to develop plans for implementing the Unix-based OneDOJ technology internally in 15 high-priority metropolitan areas and other regions.

The plan to expand the use of OneDOJ by other law enforcement authorities at the federal, state and local levels has raised the hackles of some privacy and civil rights advocates, who said last week that the DOJ will need to work hard to ensure that the increased information sharing doesn't infringe on the rights of law-abiding Americans.

Data Sharing, page 35

INSIDE

The Census Bureau says it will roll out the first of 500 000 handhelds in May. PAGE 7

DARPA is funding a $650 million effort to develop faster but easier to-use supercomputers. PAGE 35

During an avian flu pandemic, you'd need to keep critical systems running – but without 25% to 40% of your staff. **Are you ready?** Probably not, Robert L. Mitchell reports.

Heads in the Sand

Hospitals Seek IRS Ruling On E-health Software Sales

Nonprofits fear exemption from fraud statutes won't protect their tax status

BY HEATHER HAVENSTEIN

Five months after the federal government altered antikickback laws to speed the adoption of electronic medical records, many hospitals still fear that providing EMR technology to physicians at cut-rate prices could lead to tax problems.

The U.S. Department of Health and Human Services in August granted hospitals partial exemptions from federal fraud laws that had prohibited them from providing discounted EMR or prescription-writing software to individual doctors or small groups of physicians. The laws are meant to prevent hospitals from influencing physicians' decisions about where to hospitalize patients.

The exemption allows hospitals to sell EMR and electronic prescription software to physicians for 15% of the cost

E-health, page 12

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VOLUME 1 – ISSUE 1

Windows Server 2003

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LONDON STOCK EXCHANGE CHOOSES WINDOWS OVER LINUX FOR RELIABILITY

THE HEADQUARTERS BUILDING of the London Stock Exchange, located in London's

Microsoft

eliable Times

www.microsoft.com/getthefacts

special edition

Reliability Is Key in the "World's Capital Market"

By MICHAEL BETTENDORF

LONDON, Oct. 2006 — When an IT system must process 15 million real-time messages per day, with peaks at 2,000 messages per second, even one second of downtime counts. That's the pressure the London Stock Exchange faced when building Infolect, the Exchange's real-time stock-ticker information delivery system.

The solution had to have rock-solid reliability, nothing less. "Reliability is one of the key attributes of the Exchange in its technology systems. These systems have to work every day, 24/7, to make sure the markets are there," said CIO David Lester, who evaluated both Linux and Microsoft® Windows Server™ 2003 for the Exchange's core technology systems. "We looked at a number of different platforms for our Technology Roadmap, and we lined up our business requirements with the capabilities of those platforms, and Windows Server was the clear choice."

In Lester's view, long-term reliability is a function of a solid relationship: "We wanted a deep partnership with an organization that could deliver the kind of mission-critical technology that we needed, and we felt Microsoft delivered just that."

For the full London Stock Exchange case study, plus other case studies and independent research findings on the reliability of Windows Server versus Linux, visit microsoft.com/getthefacts

BREAKING NEWS: London Stock Exchange Achieves Record Reliability

London Stock Exchange CIO David Lester (above) cites Windows Server as key to maintaining system reliability and performance.

LESTER SPEAKS OUT:

"We looked at a number of different platforms for our Technology Roadmap, and we lined up our business requirements with the capabilities of those platforms, and Windows Server was the clear choice."

–David Lester, CIO, London Stock Exchange

JOURNALISM BEAT: Continued growth for reliability-focused newspapers A world-

CONTENTS

01.08.07

Adapt or Die

In the Technology section: As security threats evolve, systems will have to become adaptive and resilient. Our Future Watch finds that researchers are working on adapative security measures such as "anomaly detectors" and "virtual controlled burns," which are deliberate releases of nonvirulent worms. **Page 24**

Sabre's Web Services Journey

In the Management section: Web services have helped Sabre Holdings break free of mainframe constraints and deliver enhanced services to spur growth and revenue for travel industry customers like Abacus International's Lim Lai Hock. **Page 27**

NEWS

6 Data center managers say the recent storm-related power outages in several cities highlight the need for companies to be able to run their IT facilities on backup power for lengthy periods.

7 Adobe Systems is urging users to upgrade to the most recent versions of its Reader and Acrobat software amid concerns that a newly disclosed vulnerability in the products could expose a large number of systems to attacks.

7 The Census Bureau says that a planned $600 million rollout of handheld computers is on track and that the first 1,400 devices will be given to users in May.

8 A losing congressional candidate in Florida appeals a state judge's ruling that prohibits access to the source code of touch-screen voting machines used in the disupted fall election.

8 SpectraLink announces its first voice-over-wireless phones in more than three years, saying that the new models support all three Wi-Fi standards and have an eight-hour battery life.

9 Global Dispatches: After a four-year bidding process, the German military awards IBM and Siemens a multimillion-euro contract to update and then manage its IT operations.

9 The H-1B visas available for the government's next fiscal year are expected to be snapped up, making it likely that proposals to raise the annual cap will again be introduced in Congress.

TECHNOLOGY

16 Heads in the Sand. During an avian flu pandemic, IT departments would need to keep critical systems running despite staff absenteeism rates that could reach 40% as the pandemic runs its six-to-eight-week course. But many organizations haven't started planning.

MANAGEMENT

29 Why New IT Managers Fail. Most new IT managers see themselves as leaders, use the rhetoric of leadership and feel its burdens, but they just don't get it — and it shows. Harvard Business School's Linda A. Hill explains what's wrong and what managers can do about it.

30 Career Watch. Veteran IT recruiter Paul Taylor talks about what IT employers are looking for. Also, the developer population boom in Asia, and six myths your HR department probably believes.

OPINIONS

10 On the Mark: Mark Hall writes that the market for authoring tools is getting more bare-knuckle, as upstarts such as MadCap Software target Adobe FrameMaker with native XML products.

14 Don Tennant believes *Time* magazine's selection of "You" as its Person of the Year undermines the legitimacy of citizen journalism.

14 Michael Gartenberg, a corporate blogger for the past five years, offers six tips.

15 Ben Rothke says e-voting vendors are on the wrong track, but trustworthy systems are possible.

25 Mike Elgan says "faith-based" backup plans can lead to disaster for road warriors. The solution? A USB drive in your pocket.

31 Paul Glen thinks that becoming a good manager takes more than either training or experience. It requires a combination of both.

36 Frankly Speaking: Frank Hayes cautions that IT's favorite word — no — can lead to grief when users are on a mission.

DEPARTMENTS/RESOURCES

At Deadline Briefs	6
News Briefs	10, 12
Letters	15
IT Careers	32
Company Index	34
How to Contact CW	34
Shark Tank	36

ONLINE

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Desktop CPU Road Map

HARDWARE: Based on the confidential road maps of both Intel and AMD, it's clear that dual-core CPUs are only the launching point for the future of the microprocessor. What advances will the new year bring to desktop CPUs? **www.computerworld.com/hardware**

100 Gigabit Ethernet For the Masses

NETWORKING: The need for bigger pipes for operations like YouTube — which is experiencing site traffic growth of 20% per month — is driving the move toward 100G Ethernet. **www.computerworld.com/networking**

If 2006 Was 'Momentous' For Apple, What's Next?

MACINTOSH: As exciting as 2006 was for Apple fans, who got everything from Intel-based Macs to updated iPods, 2007 promises to be even bigger. **www.computerworld.com/mac**

CES, Macworld Coverage

NEWS: For the latest on this week's big tech conventions, including Macworld in San Francisco and the Consumer Electronics Show in Las Vegas, visit our Web site. **www.computerworld.com**

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AT DEADLINE

Computer Theft Exposes Patient Data

The theft of a computer from the office of health care contractor Electronic Registry Systems Inc. late last year exposed sensitive data from about 25,000 patients in five states. The compromised data includes the names, addresses, diagnoses, treatment information and Social Security numbers of patients of five regional health care providers.

Cisco Warns About Software Flaws

Cisco Systems Inc. has issued an advisory about two vulnerabilities in the Cisco Clean Access network access control software. The flaws could allow remote attackers to gain control of the devices or glean sensitive data from customers. Cisco Clean Access allows companies to screen the machines of users attempting to connect to a network over wired, wireless or virtual private network connections.

Patch Issued for OpenOffice.org App

The OpenOffice.org community has released a patch to fix a vulnerability in its open-source productivity suite. The flaw can be exploited by creating a malicious file in the Windows Metafile or Enhanced Metafile formats. The flaw, rated "highly critical" by security vendor Secunia ApS, was first reported in October. The vendors that distribute OpenOffice opted not to issue the patch until OpenOffice.org acknowledged the flaw.

Seagate Unveils First 1TB Disk Drive

Seagate Technology LLC has disclosed that it plans to start shipping a hard-disk drive with 1TB of storage capacity during the first half of the year. The capacity of the new drive is one-third greater than that of Seagate's current high-end drive. The new drive will be the company's first to use emerging perpendicular recording technology. Seagate did not disclose pricing.

Storms Pose Power Tests For Data Center Execs

Lengthy outages point to need for backup plans

BY ERIC LAI

As VICE president of operations and engineering at data center operator Peak 10 Inc., Jeff Biggs is well versed in protecting IT facilities against power outages caused by extreme weather.

For example, Biggs has taken numerous steps to harden Charlotte, N.C.-based Peak 10's operations in Florida against the annual threat of hurricanes — like making sure its Jacksonville collocation facility taps into the city's underground power lines in two places, in case one substation or line goes down. He also bought a massive 1,500-kilowatt diesel generator for Peak 10's Tampa data center and signed emergency refueling contracts with two separate suppliers in case of an extended outage.

But Biggs acknowledged that recent storm-related power outages in Denver, Seattle and St. Louis, all of which left parts of those cities dark for a week or longer, would have tested and perhaps overwhelmed Peak 10's precautions. "An outage that long — oh my God, it would catch even my fuel suppliers off guard," he said.

IT managers have focused much attention on efforts to cut the spiraling costs of powering and cooling all the servers in their data centers. But in many cases, they have devoted less thought to better protecting the facilities from power outages, according to some data center managers and services firms.

In a recent example, a Seattle data center that supports the reservations systems of a major airline went dark for four hours on Dec. 15 when its backup generator failed to turn on after windstorm-induced blackouts, according to Mark Svenkeson, president of Hypertect Inc., a Roseville, Minn.-based company that builds data centers.

"They had all of the right pieces in place," he said. "It just wasn't well implemented, so it shut the business down."

Weighing the Costs

Although universal power supplies are pretty much a necessity for any data center, not every company has a backup gas or diesel generator, which can easily run into six figures.

The Michigan Schools and Government Credit Union in Clinton Township has an uninterruptible power supply that can provide up to three hours of backup power. But for now, it lacks a generator, said CIO Scott Townsend.

Storms like the two blizzards that paralyzed Denver may overwhelm data center power-outage plans.

"We have enough to ride out short-term outages, which is what we mostly have," Townsend said. He added, though, that the credit union lost power for a day and a half in August 2003, when a massive outage in the Northeast and Midwest left 50 million people without electricity.

The credit union relies on a disaster recovery vendor for data backups and the ability to quickly migrate its core banking system to a data center in a different state. But it is scouting out locations for a new data center, for which Townsend plans to buy a generator.

Svenkeson recommended that data centers have two generators so they have "a backup for their backup." But he said that because of new U.S. Environmental Protection Agency emission requirements that went into effect at the start of this year, enterprise-class generators have become pricier and harder to find.

The number of back orders at many generator manufacturers is so large that it could take a year to get a device delivered if a company places an order now, Biggs said.

Gary McAuliffe, a vice president at Hosted Solutions LLC in Raleigh, N.C., said the operator of collocation facilities bought a data center at the intersection of two power grids in Boston. Having dual power inlets is "a huge advantage," said McAuliffe, who manages the Boston facility. "It's a best practice, clearly."

But having faced ice storms in North Carolina that caused two-day power outages there, McAuliffe maintains 4,000 gallons of diesel fuel for the generator at his data center. He also has contracts with multiple fuel suppliers. In preparing for outages, he said, "you have to plan for being able to provide continuous power for more than a week."

Buried Power Lines Not Favored Beyond City Limits

WHAT MAY BE the most obvious power infrastructure upgrade – burying electrical lines, especially in areas where wind, hail, heavy snow or falling trees are threats to poles and towers – still isn't considered to be viable or even desirable in most cases.

"In terms of safety, reliability and especially cost, underground lines are the least preferred choice of engineers," said Rick Pieper, a technical director at Henkels & McCoy Inc., a Blue Bell, Pa.-based engineering and construction firm.

In the U.S., high-voltage power lines are typically found underground only in dense commercial areas, such as the downtowns of major cities. Although underground wires may appear to be less vulnerable than ones aboveground, Pieper and others said they are much more expensive to install and have several disadvantages.

For example, aboveground lines typically are uninsulated and cooled by air. In contrast, underground lines quickly build up heat and have to be cooled by methods such as bathing them in oil inside their steel piping.

Repairing underground wires typically takes longer than fixing overhead ones. And they aren't necessarily less prone to storm damage, said Stan Johnson, a manager at North American Electric Reliability Corp., a nonprofit self-regulatory organization in Princeton, N.J., that goes by the acronym NERC. Johnson pointed out that salt water brought ashore by hurricanes can cause as much damage to underground lines as winds do to the overhead variety.

Even pro-reliability watchdogs such as NERC don't advocate the use of underground power. "We push for a more reliable system, yes, but we do not as a general rule push for utilities to build underground lines rather than aerial transmission poles," said Johnson.

A dense underground power grid can benefit data center managers in urban areas by letting them tap into lines two or more times for redundancy. "That's the Holy Grail for data centers, if you can do that," said Jeff Biggs, vice president of operations and engineering at data center operator Peak 10.

But many data centers are migrating to suburban or rural locations. In those areas, Pieper said, "as the electricity arrives from the generating plant, I can tell you it's all going to be up in the air somewhere."

– ERIC LAI

Adobe Set to Issue Patches for Web-based Acrobat, Reader Flaws

PDFs in Firefox most vulnerable; upgrading advised

BY JAIKUMAR VIJAYAN

Adobe Systems Inc. this week plans to issue patches for recently disclosed vulnerabilities in its widely used Adobe Reader and Acrobat software.

Security analysts noted that the flaws can be easily exploited — any Web site hosting PDF files can be used to carry out an attack.

The flaw affects Adobe Reader and Acrobat Versions 7.0.8 and older running in the open-source Firefox browser, and Adobe 6.x and older versions running in Microsoft Corp.'s Internet Explorer, analysts said.

The vulnerability was discovered by a pair of researchers in Italy, Stefano Di Paola of the University of Florence and Giorgio Fedon, a security consultant at Milan-based Emaze Networks SpA.

A spokesman for San Jose-based Adobe said the flaw allows "remote attackers to inject arbitrary JavaScript into a browser session."

In an e-mail, Pam Deziel, director of Adobe's platform business unit, said that users can "address the issue immediately" by upgrading to Adobe Reader 8 and Acrobat 8.

"Acrobat and Reader customers who wish to stay with their current version can use their browser preferences to disable the Reader plug-in from opening within the browser," Deziel added.

Open Access

Researchers said the flaw is located in an Adobe Reader feature called Open Parameters, which allows additional commands to be sent to the program when opening a PDF file. The feature allows users "to open a PDF file using a URL or a command that specifies both the file to be opened, plus actions to be performed once the file is opened," according to Adobe.

Security analysts said the problem was likely created because Adobe failed to properly validate the kind of actions that can be initiated using the commands, providing attackers with a way to run malicious JavaScript code on a user's browser.

Ken Dunham, director of VeriSign Inc.'s iDefense rapid response team in Reston, Va., said an attacker could use the flaw to create a hostile Web site with a link to PDF files on a bank's Web site. The link could contain malicious commands that would be executed when the PDF file was opened in a user's browser, he said.

"Instead of clicking on a link to get a PDF file, you get more than you bargained for — the execution of hidden JavaScript statements" on the user's browser, Dunham said.

Such malicious JavaScripts could be used to steal cookies, session keys and Web browsing data, he noted.

Since the scripts would appear to be running in the context of the Web sites from which the PDFs were loaded, victims would be unlikely to suspect or detect suspicious activity, said Billy Hoffman, lead research engineer at SPI Dynamics Inc. in Atlanta.

Such cross-site scripting is usually the result of server-side security failures, Hoffman said. With the Adobe flaw, however, any company that hosts a PDF file on its Web site could find its site and its PDFs co-opted in an attack, regardless of security measures taken, he said.

There is a strong likelihood that the flaw will be attacked, because the Adobe software is widely used and the flaw can be easily exploited, Dunham said. However, the impact of attacks will likely remain low in the short term, he added. "We don't see anything more significant than stealing cookies and session data and that sort of thing," he said.

Dunham did note that some analysts are wondering whether a cross-site scripting worm could be created to take advantage of the flaw. However, such a development appears unlikely, at least in the short term, he added. But for the moment, this remains "unproven, undeveloped and relatively unlikely at this time," he said.

Work-around

Client-side work-around for the Adobe flaw:

- Remove plug-in support for PDF files within the browser.
- Disable JavaScript.
- Configure PDF files to launch the Adobe Acrobat program instead of the plug-in.

Census to Start Small on Handheld Rollout

In midst of $600M project, agency will deploy first 1,400 devices in May

BY MATT HAMBLEN

The U.S. Census Bureau's planned $600 million rollout of handheld computers is scheduled to start in May, when the agency expects to deploy 1,400 devices for use in updating addresses in preparation for the 2010 census.

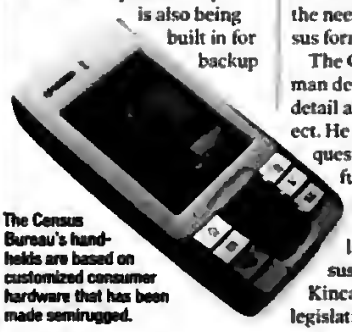
A Census Bureau spokesman and officials at the project's prime contractor, Harris Corp., said last week that the handheld deployment, which was announced last April, is moving forward on schedule. The agency will eventually roll out 500,000 devices.

Harris demonstrated the handhelds to 50 Census Bureau officials on Dec. 14, transmitting data over a Sprint wireless network, said Mike Murray, vice president of census programs at the vendor's government communications systems division. Murray said the initial 1,400 handhelds will be used in a dress rehearsal of address updates in two test markets during May and June.

As the rollout progresses, the devices will be used to update addresses nationwide in 2009 and will then be used in 2010 to input information during a canvass of homes whose residents fail to submit paper census surveys, according to Murray. In all, census takers equipped with the handhelds might visit as many as 50 million homes, he said.

Census Bureau officials have been requesting changes in the functionality of the handhelds "almost daily," Murray said. For example, the plans for the Field Data Collection Automation project originally called for the use of fingerprint authentication only. But a second level of end-user authentication — passwords — has since been added.

The handhelds will run Windows Mobile 5.0 on hardware made by High Tech Computer Corp. in Taiwan. The devices are based on consumer technology that has been customized and made semirugged. They include a 10-hour battery and a cellular data radio. A phone line port is also being built in for backup purposes if wireless connections aren't available, and the handhelds will be equipped with GPS mapping information to help census takers find addresses.



The Census Bureau's handhelds are based on customized consumer hardware that has been made semirugged.

Census Bureau officials have said the use of the handhelds will result in greater efficiency for field workers who traditionally have carried paper address lists. The officials said they also expect the project to save the government millions of dollars by shortening the time it takes workers to gather data, improving the information's accuracy and reducing the need to process paper census forms.

The Census Bureau spokesman declined to comment in detail about the handheld project. He also wouldn't address questions about potential funding issues, beyond referring back to congressional testimony last July in which Census Bureau Director Louis Kincannon said that recent legislative actions were forcing the agency "to question key operational and design considerations" for projects such as the handheld rollout.

In July, the U.S. House and Senate both passed proposed fiscal 2007 budgets that reduced the White House's funding request for the Census Bureau. But none of the reductions have taken effect because Congress later approved a continuing resolution that keeps the federal budget at the same level it was at during fiscal 2006, at least through Feb. 15.

Sen. Tom Coburn (R-Okla.) has questioned the need for the handheld program and criticized the Census Bureau for not putting census surveys online. "It's ludicrous not to move the census online," said John Hart, a spokesman for Coburn. "Millions of people already file their taxes online."

But Murray said many Americans still lack Internet access, making it important for the Census Bureau to continue visits by census takers — and the handheld project.

Losing Candidate Appeals Florida E-voting Decision

Judge prohibits access to source code of ES&S touch-screen machines

BY MARC L. SONGINI

THE LOSING candidate in the Nov. 7 election to represent Florida's 13th Congressional District has appealed a state judge's ruling that the source code of e-voting machines used in the disputed contest cannot be examined.

Democrat Christine Jennings, who lost the race, last week filed an appeal of Leon County Circuit Court Judge William Gary's Dec. 29 ruling that the source code in the Election Systems & Software Inc. (ES&S) iVotronic e-voting machines can't be independently examined. Jennings sought the tests to determine whether the machines malfunctioned during the election.

"The issue is whether private profit and trade secrets should trump the public interest," said Kathy Vermazen, a spokeswoman for Jennings.

Jennings had filed suit about two weeks after the election, contending that problems with the machines were the primary reason why 18,000 ballots cast — 15% of the total — did not include a vote in the disputed congressional contest.

Jennings lost the election by 369 votes to Republican Vern Buchanan.

In the suit, Jennings argued that the votes allegedly not counted by faulty machines would have reversed the election's outcome. The suit asked the court to declare Jennings the winner or require that a new election be held.

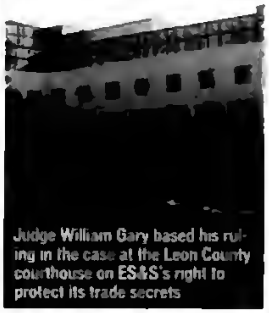
Vermazen said backers of the lawsuit have suggested that technical glitches may have occurred during the transfer of votes from the touch-screen ballot to the machines' memory.

An ES&S witness, Michael Herron, an associate professor of government at Dartmouth College, told the court that the problems were likely caused by flawed ballot design.

Jennings maintained in the lawsuit that the size of the so-called undervote indicates that there was likely a technical problem with the machines.

The suit sought to allow experts selected by Jennings to examine the source code of the machines to determine whether glitches had occurred.

Gary ruled that Jennings and district voters who brought the lawsuit sought access to ES&S trade secrets "based on nothing more than speculation and conjecture." Allowing access to the iVotronic source code "would result in destroying or at least gutting the protections afforded those who own trade secrets," the judge wrote.



Judge William Gary based his ruling in the case at the Leon County courthouse on ES&S's right to protect its trade secrets

In addition, Gary's decision noted that the machines were tested twice by the Florida Division of Elections after the election and were found to compile votes accurately.

"No one is suggesting the [iVotronic] material be turned over to the public or put on the Internet or made available in any way," said Matthew Zimmerman, staff attorney at San Francisco-based advocacy group the Electronic Frontier Foundation and a plaintiff in the lawsuit. "We're just asking for the ability to look at the machines and perform an investigation. If, at the end of the day, we've found nothing, that's the end of the story."

In an e-mail exchange, a spokeswoman for Buchanan, citing the successful test of the machines following the election, said that Jennings' case "has no merit."

ES&S, a co-defendant in the suit, maintains that the equipment in question worked well in the election. "There is already public scrutiny for every element of the voting system, including the source code," said a spokesman for the Omaha-based vendor. "Unfortunately, it appears the plaintiffs only believe it's a fair review if they themselves conduct it."

Grant Gross of the IDG News Service contributed to this story.

Pelosi: Disputed House Seat Is Still Up for Grabs

THE SWEARING IN of Republican Vern Buchanan as U.S. Representative in Florida's 13th District doesn't ensure that he will serve a full two-year term, said new House Speaker Nancy Pelosi late last week.

In response to questions from Rep. Rush Holt (D-N.J.), Pelosi said the seating of Republican Buchanan won't affect a lawsuit filed by his rival in the race, Democrat Christine Jennings, that is seeking to overturn the results.

In November, Jennings filed a lawsuit against state elections officials contending that problems with ES&S iVotronic touch-screen systems threw the election to Buchanan in error. Buchanan won the election by 369 votes.

"The seating of this member-elect is entirely without prejudice to the contest over the final right to that seat that is pending under the statute and will be reviewed in the ordinary course in the Committee on House Administration," Pelosi said on Thursday while presiding over the House of Representatives for the first time.

In a statement, Holt said that "there is compelling evidence that, had all the votes been counted, the result [in Sarasota County] would have been different. It is incumbent on the House to resolve this situation and ensure that the rightful winner is seated."

Holt, a critic of paperless electronic voting systems, has stated that he intends during the current House session to promote legislation that will require all e-voting machines to produce a paper trail.

A spokeswoman for Buchanan disagreed with Pelosi's conclusion, noting that there is nothing in the House rules or the U.S. Constitution that provides for a provisional, conditional or temporary swearing in of a representative.

– MARC L. SONGINI

SpectraLink Offers Full Wi-Fi Support in New Line of Phones

BY MATT HAMBLEN

SpectraLink Corp. last week announced a pair of wireless telephones that support all three Wi-Fi radio standards and have double the battery life of previous models, offering end users as much as eight hours of talk time.

SpectraLink has been in the voice-over-wireless business since 1999, and the NetLink 8000 series phones are its fourth generation of devices, said Ben Guderian, the Boulder, Colo.-based company's vice president of marketing. But the NetLink 8000s are the first new models released by SpectraLink since mid-2003.

The NetLink 8020 is priced at $595, while the 8030, which includes push-to-talk capabilities, will sell for $675. Both are scheduled to ship this quarter.

John Tuman, director of network services at WakeMed Health & Hospitals in Raleigh, N.C., said the new phones interest him as possible replacements for about 600 existing SpectraLink models that have a shorter battery life.

The phones now being used at WakeMed, which bought them from Nortel Networks Ltd. under a reseller deal, provide four hours of talk time. Many nurses and other health care workers carry a second battery, so they can use the phones for eight hours. But battery life is still a problem if they work a 12-hour shift, Tuman noted.

The new phones are appealing because "we're looking for extended battery life," he said.

Moreover, the NetLink 8000s are "much better-looking and slightly smaller" than the previous ones were, Tuman added, and they are resistant to liquids, which would make them practical in hospital settings.

The NetLink 8000 phones support each of the three current Wi-Fi standards.

SpectraLink's earlier phones supported only the 802.11b Wi-Fi standard, but the new models can accommodate 802.11a and 802.11g as well. That offers greater flexibility to IT managers who must provide clear communication capabilities to their users, said Craig Mathias, an analyst at Farpoint Group in Ashland, Mass. He added that as far as he knows, SpectraLink is the first vendor to support all three Wi-Fi standards in a single phone.

Mathias predicted that phones supporting voice over Wi-Fi will one day become the norm, because they allow workers to move about freely and avoid making toll calls.

GLOBAL

An International IT News Digest

IBM, Siemens Finally Win Military IT Pact

BERLIN

THE German Federal Armed Forces, or Bundeswehr, has awarded a 10-year IT modernization and management contract worth €7.1 billion ($9.4 billion U.S.) to IBM and Siemens AG after more than three years of negotiations with various vendors.

The IT work planned under the so-called Herkules contract, which was awarded Dec. 28, will be handled by a newly formed joint venture based in Meckenheim, Germany. IBM and Siemens own 50.1% of the venture, and the remainder is held by the German government.

IBM will be responsible for modernizing the German army's data centers and running applications such as Notes and SAP AG's ERP and supply chain management software. Siemens will upgrade and operate the Bundeswehr's IT equipment, which includes about 140,000 PCs, 7,000 servers, 300,000 fixed-line phones and 15,000 cell phones.

IBM, Siemens and then-partner Deutsche Telekom AG initially bid for the contract in 2002. At that time, the military selected a bid from a rival consortium called Isic 21. But the armed forces and Isic 21 failed to agree on financial terms, so IBM and Siemens, without Deutsche Telekom, submitted new bids.

■ JOHN BLAU, IDG NEWS SERVICE

GLOBAL FACT

132M

The number of Chinese citizens with Internet access at the end of 2006, up from 123 million last June.

SOURCE: XINHUA NEWS AGENCY AND CHINA INTERNET NETWORK INFORMATION CENTER, BEIJING

Amsterdam Set to Test Linux on Its Desktops

AMSTERDAM

THE CITY of Amsterdam plans to test open-source software on desktop computers in two municipal departments during the first half of this year.

In a statement released late last month, the city said it doesn't plan to fully phase out the use of proprietary software. But, it added, the testing is expected to lead to cutbacks in the scope of its current desktop software contract with Microsoft Corp. That contract is scheduled to expire at the end of next year.

As part of the first open-source tests, Amsterdam's public housing service and the local authority for the borough of Zeeburg will run Linux on their desktop PCs, according to a spokeswoman for the city authority.

■ PETER SAYER, IDG NEWS SERVICE

Taiwan Allows Chip Investments in China

TAIPEI

THE GOVERNMENT of Taiwan has approved plans by three chip makers to invest funds in China, marking a significant easing of regulations for the Taiwanese IT industry.

Taiwan has long limited investments in China by domestic chip makers because of concerns that their technologies might end up being used by the Chinese military.

But late last month, the Taiwanese government approved a request by Powerchip Semiconductor Corp. to build a $410 million memory chip factory in China. A similar proposal by ProMOS Technologies Inc. for a $365 million plant was also approved. And Advanced Semiconductor Engineering Inc. received the green light to invest $60 million in Global Advanced Packaging Technology Ltd., a maker of low-end chip assemblies in Shanghai.

■ DAN NYSTEDT, IDG NEWS SERVICE

Compiled by Mike Bucken.

Briefly Noted

BenQ Mobile GmbH failed to meet an end-of-the-year deadline to find a buyer, leading a German court to begin insolvency proceedings against the Munich-based mobile phone maker. "Production will now wind down," said a spokesman for the company's insolvency administrator. BenQ Mobile has about 1,000 employees remaining at plants in Munich and two other German cities after previously cutting 2,000 jobs.

■ JOHN BLAU, IDG NEWS SERVICE

The Electronics Corporation of Tamil Nadu Ltd., a government-owned provider of IT services to the Indian state of Tamil Nadu, plans to replace its Microsoft server and desktop software with Linux and other open-source products. The Chennai-based company, known as Elcot, is turning to open source to cut costs and improve security and ease of use, said its managing director.

■ JOHN RIBEIRO, IDG NEWS SERVICE

Fairchild Semiconductor Corp. has launched a $200 million tender offer for Taipei-based System General Corp. Both companies develop chips used to manage power in digital devices. South Portland, Maine-based Fairchild said it expects to hire all 250 of System General's employees.

■ DAN NYSTEDT, IDG NEWS SERVICE

Another H-1B Fight Looms in Congress

BY PATRICK THIBODEAU

As the new, Democrat-controlled Congress took office last week, Elena Park, immigration practice leader at Philadelphia-based law firm Cozen O'Connor, had this piece of advice for companies that want to hire H-1B visa holders: Move quickly.

"The fact of the matter is, there is an H-1B blackout," Park said. The blackout will end in April, when the U.S. Bureau of Citizenship and Immigration Services (USCIS) begins taking applications for visas to be issued during the federal government's next fiscal year, which starts in October. Park expects numerous employers to file visa applications as soon as they can. "It's sort of like a race," she said.

Demand for new H-1B workers for the current fiscal year was so high that the USCIS reached the annual cap of 65,000 visas less than two months after it began accepting applications, the shortest period ever. An additional 20,000 visas limited to workers with advanced degrees from U.S. universities was gone in four months. The strong demand likely means that proposals to raise the H-1B cap will again be introduced in Congress, according to officials from industry and labor groups.

H-1B supporters, such as Jeff Lande, a senior vice president at the Information Technology Association of America, don't think Democratic control of Congress will stymie pro-visa lobbying. Lande pointed to last year's bipartisan support in the Senate for a proposal to increase the cap to 115,000 visas.

But some vocal opponents of the H-1B program took over congressional seats last week, including Sen. Jim Webb (D-Va.). In a statement posted on Policy Soup, a blog run by the Fairfax County Chamber of Commerce, Webb wrote, "I do not support guest worker programs. This applies to H-1B visas, except in the most extraordinary circumstances. I do not believe the myth of the tech worker shortage."

Some H-1B critics also plan to seek improvements in the way the visa program operates.

"The system is worthless," said Ron Hira, vice president of career activities at IEEE-USA, a unit of the Institute of Electrical and Electronics Engineers Inc. "The only thing protecting the [U.S.] workforce right now is the cap, and there is almost nothing protecting the foreign workers from being exploited."

For instance, employers that want to hire workers who have H-1B visas must attest that they will pay prevailing wages and include the relevant wage data in so-called labor condition applications (LCA)

> **"The only thing protecting the [U.S.] workforce right now is the cap, and there is almost nothing protecting the foreign workers from being exploited.**
>
> **RON HIRA,** VICE PRESIDENT OF CAREER ACTIVITIES, IEEE-USA

sent to the U.S. Department of Labor. But the department's role in checking LCAs is limited by law. It looks for errors and omissions electronically but doesn't have the ability to randomly audit companies to ensure that they are complying with the wage laws. In addition, the agency can undertake investigations only in response to complaints.

In a report released last June, the U.S. Government Accountability Office said the Labor Department's process for electronically reviewing LCAs is prone to mistakes. The GAO found 3,229 applications from H-1B employers that reported they were paying visa holders less than the prevailing wage.

Hira said the IEEE and other H-1B critics want the Labor Department to have more authority to audit employers and do compliance testing.

BRIEFS

FCC Approves $86B AT&T/BellSouth Deal

AT&T Inc. closed its $86 billion acquisition of BellSouth Corp. after gaining approval from the Federal Communications Commission. The Dec. 29 FCC decision came a day after AT&T made concessions, including a pledge to maintain a "neutral network" for two years. AT&T announced plans to buy BellSouth in March, saying that it expected the merger to lead to $2 billion in annual savings.

Google Fixes E-mail Contact List Flaw

Google Inc. has fixed a flaw that would have allowed Web sites to harvest data from Gmail contact lists, which could have let spammers collect reams of e-mail addresses. Google fixed the problem within 30 hours of being notified, said Haochi Chen, a blogger who tracks the company. Google confirmed that the problem was fixed.

Apple Clears Jobs Of Wrongdoing

An internal investigation into past stock-option grants at Apple Computer Inc. has found that CEO Steve Jobs was aware of procedural irregularities but did not benefit from the grants or understand the accounting implications. The results of the investigation were revealed in documents filed with the U.S. Securities and Exchange Commission late last year. Apple also said it will restate financial results for 2004, 2005 and 2006 as a result of the options probe.

Alcatel Purchases Nortel UMTS Unit

Alcatel-Lucent SA has closed its $320 million acquisition of Nortel Networks Corp.'s Universal Mobile Telecommunications System unit after clearing regulatory hurdles on Dec. 31. About 1,700 Nortel employees are moving to Alcatel-Lucent, including most of the research and development team. The companies completed the acquisition in November.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Authoring Tools Tussle Will . . .

. . . get rowdier later this year. Few software users gripe more about their tools than writers. It doesn't matter whether they're publishing workflow-laden technical docs or The Great American Novel; writers hold strong views about what they use. So IT managers tread warily into a den of corporate writers with the thought of changing a favored program. But that's exactly what (the perhaps appropriately named) MadCap Software Inc. wants you to consider doing. The San Diego-based company plans to ship authoring software called Blaze in the third quarter, going head to head with Adobe Systems Inc.'s FrameMaker. MadCap CEO Anthony Olivier boasts that Blaze will have a big advantage because it is built on "a fresh code base" that outputs native XML files. Mike Hamilton, MadCap's vice president of product management, adds that FrameMaker's legacy code makes getting XML files from the Adobe software "a bit like steering a battleship with a plastic paddle." Blaze will also include native support for Microsoft Corp.'s XML Paper Specification document format, Olivier says. Pricing for Blaze has not yet been set.

HAMILTON: FrameMaker isn't a friend of XML files.

Blogs may be destined to . . .

. . . take a downward turn. Gartner Inc. predicts that blogs will reach their zenith this year, then start to slide in popularity. That gutsy forecast has made the consulting and research firm a common target for sneers and jeers within the burgeoning blogosphere. And even though blogs might be a future thing of the past, Michael Denning, vice president and general manager of digital brand services at VeriSign Inc., cautions brand-conscious companies to pay close attention to what bloggers say about them. Businesses need to know not just that a self-appointed wag is ragging on their products and services, but also who's reading the rant and "how it influences the reader," he says.

Keep an eye on bloggers and phishers.

Although blogging is an important trend (at least for now), Denning says phishing attacks will continue to be the biggest threat to corporate brands this year. He notes that 60% of phishing messages make illicit use of a brand. Given the mayfly-like life spans of most phishing sites, Denning says, protecting yourself against them "is not something you can wait for until the next day — next hour, even." Needless to say, he would be delighted to chat with you about VeriSign's brand- and fraud-protection services — if you have $100k or so to spend. That is the service's average annual cost.

Watch for Vista gotchas during . . .

. . . upcoming upgrades. Many IT managers pair an operating system upgrade with the addition of new hardware to avoid the pain of putting a new operating system on an old PC. Others try to get extra mileage from their old machines by souping them up with an improved operating system. But with Windows Vista, the latter group must be aware of the limits of their old hardware, warns Paul Rochester, CEO of PS'Soft Inc., a 15-year-old software vendor that was acquired by private investors in November and has since moved from France to San Mateo, Calif. Rochester says Vista sucks up more system memory than Windows XP and requires better-than-average graphics acceleration. Drivers will need to be updated, he adds. And if you have workers with older laptops, consider this: "Memory swap-out is much trickier" and more time-consuming than it is with desktops, Rochester says. If you had his company's QP asset management tool, you'd at least know which of your PCs were Vista-capable and which ones weren't. QP's name will be changed as PS'Soft shifts its focus toward the U.S. market. "It stands for something in French that's not very meaningful [in English]," Rochester explains.

'What'd ya do in school today?' . . .

. . . doesn't cut it for parental involvement anymore. At least not in school districts that use software from vendors such as Maximus Inc. in Reston, Va. Tom Funk, the company's president, touts his Web-based SchoolMax Enterprise software for its ample array of tools for school administrators. But what he really brags about are the modules designed "to try to get parents involved in the performance of their kids." Funk claims that grades improve when schools give parents SchoolMax accounts and let them access role-based portions of the software, such as attendance records or current assignments. This year, Maximus plans to add support for more points of access to student information, such as kiosks in public libraries and interactive voice response systems for families without PCs or online access. One of the biggest impediments to giving parents access to the information is parental concern about data privacy, Funk says. Er, does that mean parents don't trust themselves? ▸

Software pulls parents into the education process.

IBM

_INFRASTRUCTURE LOG

_DAY 22: We've taken "odd on app, odd o server" to the next level: complete insonity. The servers require constant ottention. Our fingers ore cramping from rebooting. Hoven't left the office in days.

_DAY 23: "Insone" doesn't begin to describe it. Around-the-clock maintenance is turning our staff into an army of zombies. Hey, even the undeod get time ond o holf.

_I don't want to spend onother night in the server room. I wont control. I want an ı.

BRIEFS

Cisco Purchases Security Tool Maker

Cisco Systems Inc. has agreed to buy IronPort Systems Inc., a developer of e-mail and Web security appliances, for about $830 million in cash and stock. IronPort, founded in 2000, employs about 400 people. The company will become a business unit in Cisco's security and technology group. The deal is expected to close in July.

MySQL Set to Ship Falcon Alpha Release

MySQL AB is set to release the alpha version of its open-source Falcon storage engine, which is designed for high-volume Web server environments. Falcon should be available for download this week, said Kaj Arnö, vice president of community relations. The alpha release will be used to refine the storage engine's features and performance and will be followed by a beta version focusing on bug fixes, Arnö said. No timetable has been set for releasing a beta version.

Arrow Buys KeyLink For $485M in Cash

Arrow Electronics Inc. has agreed to acquire Agilysys Inc.'s KeyLink Systems Group for $485 million in cash. KeyLink, a distributor of servers, storage systems and software in the U.S. and Canada, employs about 500 people. The sale is expected to close within 90 days. Arrow also signed a long-term procurement agreement with Agilysys' Enterprise Solutions Group, a value-added reseller.

CheckFree Agrees To Buy Rival Firm

CheckFree Corp. plans to buy payment processing rival Carreker Corp. for about $206 million in an effort to expand its software and consulting operations. CheckFree said it hopes to utilize Carreker's expertise in check conversion – the capture and processing of digital images of paper-based checks – in its payment processing systems.

Continued from page 1

E-health

of the products.

Hospitals and physician groups had sought the exemptions for several years, contending that many physicians can't afford the software without help from hospitals.

Officials at some nonprofit hospitals now say that allowing hospitals to pay for such software could lead to a loss of their tax-exempt status.

Take, for example, CareSpark, a Kingsport, Tenn.-based organization that is developing an electronic network to allow health care providers in 17 counties in Tennessee and Virginia to share patient data. Most of the hospitals affiliated with CareSpark are awaiting a ruling from the Internal Revenue Service before taking advantage of the HHS exemption.

According to John Morrissey, director of knowledge at the National Alliance for Health Information Technology in Chicago, the IRS has yet to respond to an American Hospital Association request for additioonal guidance on the issue. The Chicago-based AHA counts 5,000 hospitals, health care systems, networks, other providers of care and 37,000 individuals among its members.

Liesa Jenkins, executive director of CareSpark, said that most of the 18 hospitals affiliated with the organizatioo are not-for-profits that believe IRS approval is needed before they can provide financial assistance to individual physicians and medical groups.

"Until the IRS solidly endorses the relaxed regulations for nonprofit hospitals and for-profit physician groups, our hospitals and physician groups are not yet ready to commit to that path," Jenkins said.

Tom Smith, CIO at Evanston Northwestern Healthcare, a not-for-profit organization that operates three hospitals io Chicago's suburbs, said Northwestern is waiting for the IRS ruling before it will provide software to its affiliated physicians.

He noted that the HHS took several years to approve an exemption to the federal fraud laws, so "we can wait a while longer to get it right."

John Blair, president of Taconic IPA Inc., a physicians network in Fishkill, N.Y., said

that the questions regarding the IRS's stance "will probably make some hospitals that might have done this sit on the fence."

In general, he said, "the negative is a lot of doctors know this is coming . . . so they are stepping back and waiting before buying now, because there may be some additional fioancial relief on the horizon."

Several years ago, Taconic started a regional health information organization called the Taconic Health Information Network and Community (THINC) in New York's Hudson Valley region, using seed money from a nonprofit organization aod a $1.5 million grant from the federal government.

THINC provides doctors with monthly subscription-based access to a database containing lab results, prescription information and other patient data.

In addition, THINC employer members and insurance companies pay doctors additional fees for using the electronic service.

The organization doesn't have a direct stake in the IRS issue because of its early start in creating EMRs, Blair noted.

For some hospitals, the financial burden of providing EMR software to individual doctors and small groups of physicians is a more important hurdle than HHS or IRS regulations.

Pat Taffe, CIO at North Memorial Health Care, a hospital in Robbinsdale, Minn., said the HHS exemption "just shifts the burden from the small, independent providers to large hospitals and health systems. We may be larger. However, we aren't financially aoy better off." ▸

Hospital-Physician Link Key to EMR Success

CLEARING THE PATH for hospitals to provide electronic medical record technology to physician practices has become a key requirement for meeting federal e-health goals. Industry officials nots that hospitals can't complete their own automation efforts without access to the patient records of individual physicians.

According to John Morrissey, director of knowledge at the National Alliance for Health Information Technology (NAHIT), at least 70% of health care is delivered to patients outside of hospitals.

Therefore, he said, hospital personnel can't get complete patient histories without access to EMRs compiled by patients' physicians. "If hospitals are automated to the max and their referring physicians are still using paper, all they have is a fairly expensive 30% solution," Morrissey said.

The NAHIT includes health care providers, insurance companies, employers and IT companies that are trying to foster the adoption of health care technology.

Morrissey noted that hospitals need assurance that they can provide discounted EMR technology to physicians without penalty.

"We now have a well-marked path for hospitals of all types to supply technology and services to doctors while avoiding arrangements that could be judged illegal," Morrissey said. "For for-profit hospitals, that is the end of the story. But for not-for-profit hospitals . . . there is this hill after the mountain."

He explained that nonprofit hospitals must prove that any software contribution would provide a substantial public benefit and contain only an "incidental" benefit to the organization itself to retain their tax-exempt status.

"It is gray enough for not-for-profit hospitals to have gotten the big lectures from their legal counsel," Morrissey said. "They need to have more comfort on how the IRS sees things."

The American Hospital Association in November requested a ruling from the IRS about whether not-for-profit hospitals can provide discounted software to physicians and remain tax-exempt. Morrissey said that no ruling has yet been made. IRS officials did not respond to requests for comment on the AHA move.

Getting that guidance and assuaging the fears of nonprofit hospitals is critical to speeding the growth of EMRs, he added. For many individual doctors and small groups of physicians, obtaining EMR software at a discounted price is "the only option open to them," Morrissey said.

"There is no movement yet in government to provide any sort of funding that would produce any tipping point whatsoever," he said. "[Adoption of the software] is not going to happen unless there is some way to make it affordable and attractive."

– HEATHER HAVENSTEIN

"[Adoption of the software] is not going to happen unless there is some way to make it affordable and attractive.

JOHN MORRISSEY, NATIONAL ALLIANCE FOR HEALTH INFORMATION TECHNOLOGY

IBM
I have control. I have a System i.™
System i gives you simplicity. The System i is a complete business system – OS, database, software, security and storage, all in one
System i gives you freedom. Thanks to the System i's legendary reliability, you'll have more time to focus on your business. You're not a slave to the system anymore, because the System i just works
System i gives you one-step security. The System i is more secure because it's easier to secure. Its innovative one-step security is specifically designed to be virus-resistant
System i gives you the best of IBM in one box. The System i is instant infrastructure, designed for simplicity. And you don't need an army to manage it.
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DON TENNANT

The Real You

YOU'RE probably aware that "You" made the cover of *Time* magazine's latest "Person of the Year" issue, and you may well be pleased with yourself that you made it. Don't be. The fact is, you don't belong there.

I hate to burst the bubble that inflated when you saw yourself in the reflective sheet on the cover and read that you were chosen because "you control the Information Age." Sorry. You don't.

I recognize that in shooting down *Time*'s selection, I'm hardly breaking new ground — a free-for-all of naysaying erupts every year, regardless of who's picked. Linux fanatics had to be talked off the ledge when they saw Bill Gates on last year's cover (he shared the distinction with his wife, Melinda, and rock singer/activist Bono).

The idea is to recognize the person or group "who, for better or worse, has most influenced events in the preceding year." According to *Time*'s editors, you got the nod for 2006 in recognition of your role in a story that's "about community and collaboration on a scale never seen before." Citing the examples of Wikipedia, YouTube and MySpace, *Time* explains that the story is "about the many wresting power from the few and helping one another for nothing and how that will not only change the world, but also change the way the world changes."

What *Time*'s editors failed to recognize, however, is that Web 2.0 isn't a story. Web 2.0 is the telling of a story. And your role lies in the telling.

Naming you as Person of the Year for 2006 is tantamount to naming Bob Woodward and Carl Bernstein as Persons of the Year for 1973 in recognition of their Pulitzer Prize-winning Watergate reporting. Instead, that distinction went to John J. Sirica, the judge who, *Time*'s editors said, "forced Watergate into the light of investigative day." While it could be argued that it was actually Woodward and Bernstein who did that, there's an inherent danger of confusing the story by allowing it to be entwined with those who write about it.

Contrary to *Time*'s assertion, you do not control the Information Age. You *can't* control the Information Age any more than Woodward and Bernstein could control Richard Nixon. The age we live in is far too complex and obsessive, sometimes disturbed, even maniacal. But what you *can* do to an unprecedented degree is share information and ideas about the age we live in and the events that shape it.

That an unsanctioned video of Saddam Hussein's Dec. 30 execution was captured on an anonymous onlooker's cell phone camera and viewed by more than a million people all over the world within a day is phenomenal. But the onlooker had no control over the hanging or what Saddam's last words would be or how he would conduct himself as the noose was slipped around his neck. The onlooker simply recorded the event.

To be sure, in sharing that recording, he told the world a provocative, engaging, accurate story. But the story was the hanging. Perhaps he should receive a Pulitzer Prize for his coverage, but the person who covers an event shouldn't be allowed to overshadow the newsworthiness of the event itself.

It's for that very reason that *Time* would never select a professional journalist as Person of the Year. Selecting the worldwide community of citizen journalists — "you" — suggests that *Time*'s editors have failed to recognize that community as an information resource that's as legitimate as its own reporting staff. Citizen journalists deserve that recognition, not a "Person of the Year" label that only undermines it.

Don Tennant

MICHAEL GARTENBERG

Lessons of a Corporate Blogger

BLOGGING is no longer the cutting-edge phenomenon it was a few years ago. In fact, many executives (including CEOs) at mainstream companies have been blogging for some time, some more successfully than others. At Jupiter, we've been blogging for nearly five years, as well as helping clients get started with blogging. Along the way, we've learned some lessons about what works and what doesn't. While it's good to learn from one's own mistakes, it's even better to learn from the mistakes of others.

1. Post early and often. There's nothing worse than a stale weblog. If you don't think you can post something of interest at least once a week — and ideally, once a day — perhaps this isn't the medium for you.

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2. Link and converse. Part of the essence of a blog is the fact that it's a conversation, not just a static diary. Don't be afraid to link to other folks and engage them. It's a great way to add presence and, more important, to help grow your reputation. Linking isn't enough, though; if you're looking to engage, you have to actually add something to the dialogue, not just point to it.

3. Once it's out there, it's out there. When blogging, discretion truly is the better part of valor. As soon as you hit "post," potentially millions of people all over the world can see your words. That's the power of blogs. But your words are going to last a long time, thanks to Google's cache and sites like Technorati. There's no such thing as a do-over. If you make a mistake, the best you can do is apologize and move on. So think really hard before you hit that publish button.

and consider that everyone you know and quite a few people you don't know will be reading everything you say. I am amazed when I discover who reads my corporate blog, and that knowledge makes me more cautious when I post.

4. Better to be late and right than first and wrong. Many bloggers feel a need to be first to report something. It feels good to have the scoop on something. Samuel Johnson said that the vanity of being entrusted with a secret is a prime motive to disclose it. Keep private things private, and skip reporting on rumors (unless, of course, you're running a rumor site).

5. Politics and religion don't mix with corporate blogs. This seems to be a no-brainer to me, but it's often ignored. Let's face it: Unless you're blogging for a religious or political organization, there's little to be gained by blogging on these subjects. At best, you net out to zero; at worst, you risk alienating a good percentage of your readers, no matter what position you take.

6. Comments are optional. Keeping comments open is a lot of work, and depending on your industry, letting just anyone post on your site can be a problem. We've tried it a few times, but we've always shut it down quickly. If folks want to engage, they need to get a blog of their own and link to (see Rule 2).

More and more, blogging isn't just for amateurs and enthusiasts in their pajamas pontificating about their lives. It's also a serious business tool. So get on board, and if you are blogging, please point me to your site.

BEN ROTHKE

Like Elections, E-voting Must Be Open

MUCH OF the debate over e-voting stemming from November's elections has been like the elections themselves: partisan. The pro-e-voting camp focuses on the need to get away from feeble mechanical voting machines. The other side focuses on how insecure e-voting systems are and says they could threaten fair and accurate elections. The truth is that both camps are right.

The machinery of voting is due for an overhaul. After the hanging-chad spectacle of 2000, a consensus emerged that a new voting technology was needed, and moving to e-voting seemed compelling. The problem is that nearly every commercial e-voting system deployed to date has been rushed to market without the level of security required for such important tools. Going digital for digital's sake without ensuring that proper precautions have been taken is shortsighted and, when it comes to e-voting, a significant threat to democracy.

BEN ROTHKE, CISSP, is a senior security consultant at International Network Services and the author of *Computer Security: 20 Things Every Employee Should Know* (McGraw-Hill, 2006). You can contact him at ben.rothke@ ben.com.

Secure electronic voting would be possible if e-voting systems were designed within the framework of engineering based on a common set of security features that all vendors could implement. Such a framework would build security and privacy into every step of the design. Similar efforts have been successful — we're willing to trust a Boeing 777 to carry us over vast stretches of ocean with just two pilots and two engines because it was built with extraordinary design and security safeguards in place. Our e-voting systems deserve no less.

The problem is that e-voting systems are immature, with myriad vendors proposing proprietary approaches and implementing e-voting in incompatible ways that are confusing to both those who vote and those who oversee elections.

To ensure a robust and secure e-voting system, the U.S. government should establish an open standardization process and solicit input on requirements and other criteria from product manufacturers, standards organizations, citizens, information security and privacy experts, federal, state and local governments, and others.

Given that a single attacker can taint an entire election, the process of securing an e-voting system must be open for public analysis. The more eyes that analyze e-voting source code, the better we will be able to find and eliminate flaws. As it stands now, the e-voting vendors guard their proprietary software and refuse to allow the public to analyze it. This cavalier, "trust me" attitude is intolerable.

Don't think for a minute that opening up the software is an invitation for attack. Making source code available for analysis is a proven practice for finding flaws and weaknesses. Such peer review has historically been one of the best ways to determine the underlying security of a system. A perfect example of this is the Advanced Encryption Standard algorithm, which governments and financial institutions around the world use to secure data. AES was chosen to be a standard only after years of public examination and analysis.

"Secure e-voting" is not an oxymoron. Getting to that point simply takes a rigorous open-engineering approach. It is up to the voting public to demand it, the government to administer it and the vendors to deliver it.

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site

www.computerworld.com/columns

READERS' LETTERS

Google Sets Record Straight on Desktop

AS PRODUCT manager for Google Desktop, I wanted to offer some information that was not included in the Dec. 4 Security Manager's Journal ["Stopping Data From Flying Off to Google"]. Both privacy and security were important considerations in the development of this feature. As the article noted, Search Across Computers is off by default, must be enabled by users on all computers they want to use it on, and requires them to be logged into their Google account to use it. Your readers should also know that indexed files are stored only temporarily on Google's servers until they are transmitted to the user's other computers as they come online, and no files are stored for more than 30 days, even if the user's other computers never come online.

Also, users can clear all of their files at any time by selecting "Clear my files from Google" from the preferences page. This information is protected using SSL, and access to it is restricted in accordance with our privacy policy. Additionally, by default Google Desktop does not index secure Web pages such as online banking sessions or password-protected documents stored on the user's machine.

Perhaps the most important thing for your readers to know, however, is that IT administrators can easily disable Search Across Computers on their network by simply blocking a specific URL or setting a group policy. Moreover, all user-configurable features of Google Desktop can be controlled or completely disabled by IT administrators to conform to corporate security and information policies. And all these options apply to both enterprise and consumer versions of Google Desktop, since they are the same binary.

Kan Liu
Google Desktop product manager, Sunnyvale, Calif.

No Study Needed

SOMEONE NEEDED to conduct a study to learn this ["Study: Customers Don't Want Data Handled by Outside Vendors," *Computerworld.com*, Oct. 24]? In my company, our data is our life. We've spent millions collecting and culling it. We've banned USB keyfobs, iPods and portables owned by employees. We've locked it all down. Inconvenient? Yes. Necessary? Yes. And we didn't need a study to figure that out.

James R. Earl
President, Solutions in Design, Marshall, Mich.

How to Succeed at Publishing E-books

IN THE article "Experts Debate Is DRM Good or Bad for Consumers?" [*Computerworld.com*, Nov. 8], James Delong states that instead of paying $30 for a new book, consumers may soon be able to pay $3 for a digital copy that lets them read it once.

He must have never tried to read an e-book. I would never pay $3 for a book I could read only once. The publishing field is littered with the remains of failed attempts at electronic publishing. None of them made money, and all of them used various forms of DRM. Only one publisher has made money at electronic publishing: Baen Books. It doesn't use DRM at all. Its books are available in a number of formats, and you are free to copy them, move them from machine to machine, change formats and even give them to a friend — all the things that cause other publishers to scream about the money they would lose.

Yet Baen makes money. The authors make money. Why? Because Baen treats its customers like honest people, offering a great product at a fair price, with few restrictions. The result? A loyal customer base that has increased by leaps and bounds through word-of-mouth.

Douglas Jones
Indian Lake, N.Y.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

FUTURE WATCH

FUTURE WATCH

Adapt or Die

As security threats evolve, systems will have to become adaptive and resilient. So researchers are working on adaptive security measures such as "anomaly detectors" and "virtual controlled burns," which are deliberate releases of nonvirulent worms. **PAGE 24**

OPINION

Moving Beyond Hope As a Backup Strategy

Mike Elgan says "faith-based" backup plans can lead to disaster for road warriors. The solution? A USB drive in your pocket. **PAGE 25**

Heads in the Sand

If there's a bird flu pandemic, IT will be critical to business continuity. So why haven't more organizations started planning?

BY ROBERT L. MITCHELL

MONDAY MORNING, 9 A.M. The CEO calls you into an executive meeting as word comes that a full-blown H5N1 avian influenza pandemic is spreading rapidly from central Asia. Your job: Keep mission-critical IT systems working despite staff absenteeism rates that could reach 40% at the height of the pandemic, which is expected to run its course over a period of six to eight weeks.

Supply chain disruptions are expected as countries close their borders, so you can't count on spare parts. With emergency travel restrictions in effect, you can forget about moving staffers between global locations to cope with labor shortages. You also need to enable remote access for an unprecedented number of employees who will either be out sick, caring for ill family members or afraid to come to the office. You have weeks, possibly just days, before the outbreak overtakes one of your major data centers.

ARE YOU READY?

For many businesses, the answer is probably no.

Like many small and midsize companies, Cleveland-based Kichler Lighting has yet to start business continuity planning. "Pandemic or otherwise, we have no plan or structure, nor the thought process, to address it," says CIO John Schindler, adding that he'd like to make it a higher priority.

Companies like Kichler are the norm, not the exception, says Stephen Ross, national leader of the business continuity management practice at Deloitte & Touche LLP in New York. "The vast majority of organizations have not done anything," he says. Even large companies are playing catch-up. In a Deloitte survey of 163 large companies conducted last month, 48% of respondents said their companies haven't adequately prepared for a pandemic. That's 14 percentage points better than the same survey the previous year. But, Ross adds, "while many large compa-

Continued on page 22

DAVID HOLDREDGE

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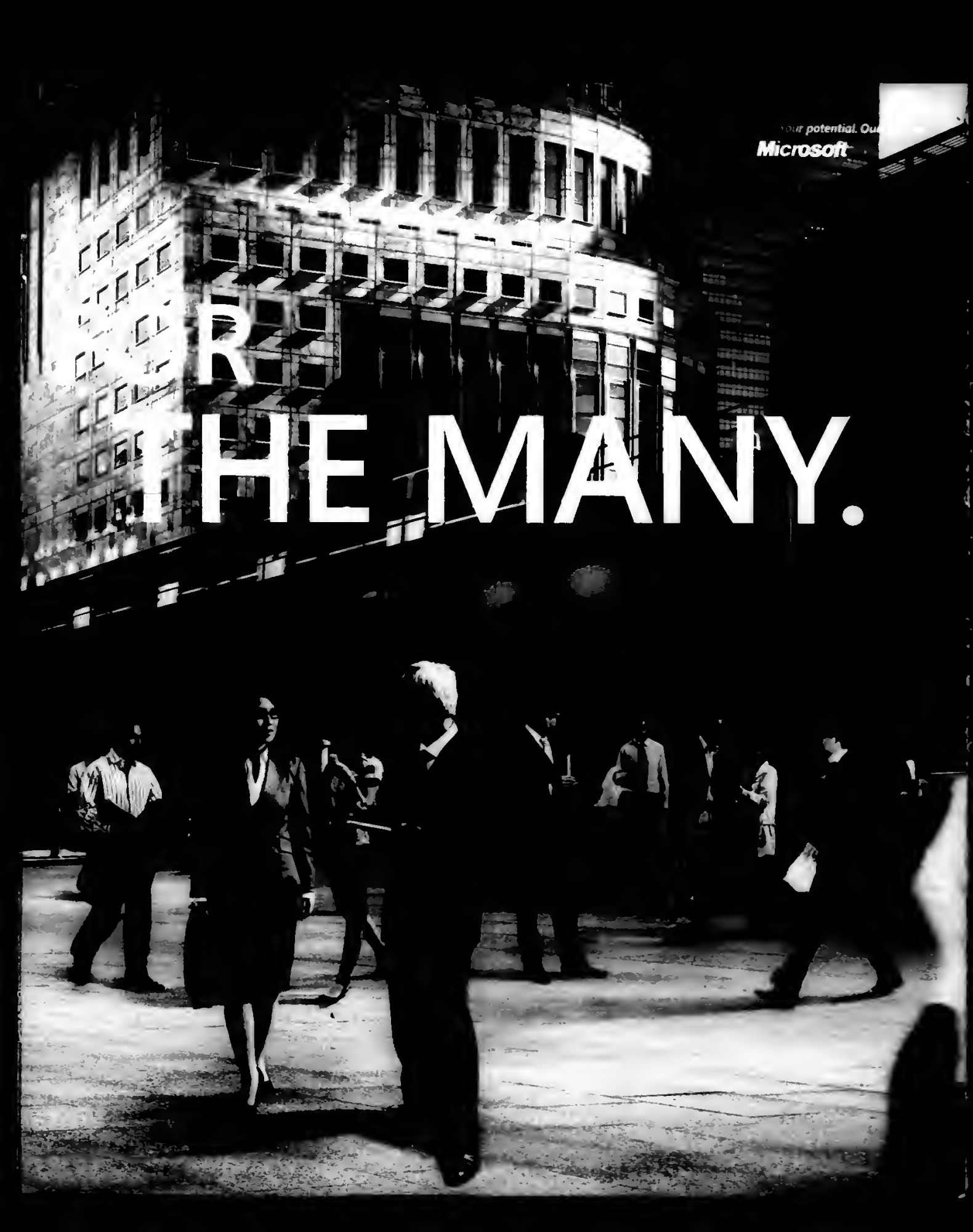
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Response Strategies

CATEGORIES	CHALLENGES	POTENTIAL STRATEGIES
	■ Lack of data center staff ■ Fixing application bugs ■ Data loss and downtime	■ Active-active server clusters ■ Contingent outsourcing of operations and application support ■ Real-time data replication
	■ Lack of local support staff ■ Fixing application bugs ■ Data loss and downtime	■ Central or cross-trained support ■ Contingent outsourcing of application support ■ Maintaining local backups
	■ Laptop distribution ■ VPN software distribution ■ Application software	■ Before-the-fact distribution ■ Distribution at the time of a pandemic, with pre-established distribution and pickup points
	■ Network reliability ■ Internet stability ■ Gateway capacity	■ Contingent outsourcing of network operations ■ Shift operations ■ Increased gateway capacity
	■ Call center support ■ Access to key personnel ■ Network reliability	■ Contingent outsourcing ■ Automatic forwarding of telephone calls ■ Carrier diversity

Continued from page 16

nies have begun their pandemic planning efforts, there's still a significantly large number that have not."

Why such inaction? A major pandemic hasn't occurred in years, and the probability of an outbreak this year can't be predicted with certainty. That may lull businesses into a false sense of security, but the potential for catastrophic losses makes planning vital, say pandemic experts and business continuity planners. "The impact of this is so high that the risk rating tells you this must be a priority," says Don Ainslie, global security officer at Deloitte.

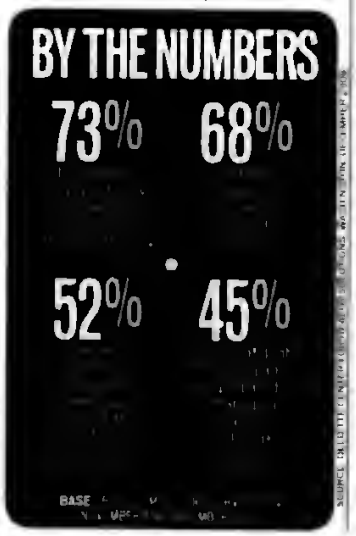
NOT IF, BUT WHEN

"The probability of a pandemic outbreak is [100%]," says Michael T. Osterholm, director of the Center for Infectious Disease Research and Policy at the University of Minnesota in Minneapolis. It's just a matter of when, he says.

The World Health Organization has already issued a pandemic alert for the deadly H5N1 virus, although at this point, the virus still isn't able to spread directly between humans. "What we need to do," says Osterholm, "is emphasize to these companies that, unlike many events [such as tornadoes and earthquakes] that may never happen to a company, this is one that will."

A flu pandemic could devastate companies and the world economy. The U.S. Department of Homeland Security estimates that worker absenteeism could reach 30% to 40% during a pandemic's peak. For a corporation with about 20,000 employees, the cost of lost labor and health care could exceed $60 million, a Deloitte study says.

Supply chain disruptions in one sector, such as the oil and gas industry, could have a domino effect, says Osterholm. According to the Congressional Budget Office, a severe pandemic could cost the U.S. economy more than $600 billion, or about 5% of the gross domestic product.



The U.S. hasn't seen a large-scale pandemic since the Spanish flu outbreak of 1918, when one-third of the world's population became ill and at least 50 million people died, according to a government report. In the worst-case scenario described in a WHO report, if H5N1 mutates directly into a human-to-human transmissible form, the mortality rate could hit 60% to 65%. In contrast, the mortality rate in 1918 was 2.5%.

"Obviously, in that kind of worldwide pandemic, it would be as catastrophic as anything we've ever seen or known. We're talking 1 billion — with a 'b' — or more deaths," Osterholm says.

But other pandemic experts question the probability of such a deadly scenario. Martin Meltzer, a senior health economist at the Centers for Disease Control and Prevention in Atlanta, says there isn't enough data to make such predictions. Then there are mitigating factors. "Some mathematical models suggest that if you have a very lethal strain of flu, it might be difficult to sustain transmission," meaning fewer people would be infected, he says.

Nonetheless, Meltzer says some sort of pandemic is inevitable, but the uncertainty of when it will occur is affecting the way companies plan. "What happens if the pandemic doesn't occur for two years? Will everyone go home and stop planning? That would be a complete disaster," he says.

> **"Unlike many events [such as tornadoes and earthquakes] that may never happen to a company, this is one that will."**
>
> MICHAEL T. OSTERHOLM, DIRECTOR, CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY, UNIVERSITY OF MINNESOTA

The enormity of the problem may lead some organizations to conclude that there's little they can do. "There is a real potential to be overwhelmed by the potential intensity of a pandemic and take no action," says Bill Raisch, director of the International Center for Enterprise Preparedness at New York University.

But organizations need to plan now, says Ainslie. "There's a lot you can do, and technology is a critical component in this," he says. And the continuity plans that businesses already have will handle 60% to 80% of the pandemic challenge, Raisch says.

Although planning needs to take place at the executive level, IT will play a key role. Companies must expand on business continuity plans, which typically assume that disasters will be regional and affect infrastructure, to deal with a disaster that is global and affects staff resources. "You can easily modify your existing business continuity plan to handle this type of disaster," says Kathy Sgroi, manager of service management in the information services division at United Parcel Service Inc.

Preparations include cross-training IT staffers to handle critical functions such as hardware maintenance. Beyond that, the IT department can deploy e-learning tools, expand remote access gateways to support more telecommuters and beef up intranet portals, videoconferencing, Web conferencing and other communication channels that will keep employees informed during an outbreak. Ainslie has used "webinars" to educate executives on the threat and how they should respond.

"The two cornerstones of any plan are being able to communicate and [being able] to receive and distribute timely and accurate information to decision-makers," says Brent Woodworth, a manager with the crisis response team at IBM Global Services.

Wayne Rawlins, national medical director and clinical lead for pandemic planning at Aetna Inc., says the company's pandemic plan has been "layered" into its crisis management plan.

The insurer recently conducted a full-scale simulation of its plan and is ready to operate its data centers at 50% staffing levels, says Dana Bennett, head of IT strategy, planning and business architecture.

Aetna will use its intranet portal and an interactive voice-response system to communicate information to employees and its clients during an emergency, and it has deployed e-learning courseware for pandemic education.

About 70% of employees are already set up for some level of remote access, Bennett says. Aetna is also ramping up its remote access gateways, which can support simultaneous network access for IT workers and the 10% of its workforce who are full-time teleworkers.

Globalization could magnify a pandemic's effect on businesses, especially in the U.S., says Ainslie. "We're in a just-in-time economy. Everything is offshored and outsourced," he says.

"Thought ought to be given as to whether and when to increase stockpiles of critical equipment," says Deloitte's Ross.

Michael Rasmussen, an analyst at Forrester Research Inc., says IT should plan now for supply chain disruptions. "Spare parts and [things like] new laptop shipments could be restricted to some degree. Even backup tapes and off-site storage could become a challenge" as transportation bottlenecks emerge, he says.

PERSONNEL SHORTAGES

Personnel shortages won't just affect low-level staffers. IT decision-makers could suddenly become unavailable. One option is to predefine task orders or procedures, such as procurements, that normally need several layers of approval, says Woodworth. "If you can get those preapproved ... it will be easier to get the things you need in a disaster," he says.

Companies like Kichler Lighting could feel the effects of a pandemic well before it hits U.S. shores. A failure of Kichler's back-office IT systems won't stop the business right away, but the firm may not have any products to ship. "Most of the company's products are manufactured in Asia. If it hits [there], we're pretty much going to have to shut down," Schindler says.

At UPS, the data center is an integral part of operations. "If our computer systems don't run, scanners in our locations all over the world won't work. Our revenue stops because our business stops," says Sgroi.

Like most large companies, UPS can remotely manage most aspects of data center operations, with the exception of hardware maintenance. But UPS also has a plan for moving workloads. If a major site in Asia or elsewhere goes offline, the company's plan calls for diverting data to another location, which must have enough capacity to take on the added workload, Sgroi says.

UPS is also adding a Web-based absenteeism application to help managers during a crisis. "During a pandemic, we would need better control over how many people are in and out of the office. This doesn't exist today," Sgroi says.

Ainslie says it isn't enough to have backup power. He's looking at how to keep running for extended periods without utility power or access to fuel for backup generators. "You have to have enough [fuel] for an extended period of time, if practical," he says.

Sgroi is confident that IT can function with an absentee rate of 25%, but she says a rate of 40% would require additional steps. Even Deloitte, which advises clients on pandemic planning and has invested considerable time and effort in its own plans, isn't ready for a 40% absenteeism rate. "We still have a lot of work to do," Ross says.

Organizations that have outsourced parts of their IT operations should also take a hard look at their collocation facilities and other outsourced IT services, says Rasmussen. "You need to be working with them to make sure you have a right to an audit. Look at their business continuity plans and what processes are in place to execute those plans," he suggests.

Although telecommuting can help some staffers continue to work during a pandemic, in some cases it just isn't practical. At Kichler Lighting, where IT staffers are already engaged in an ERP rollout, a project to support remote access for teleworkers is at least 24 to 36 months away, says Schindler.

Aetna isn't counting on remote access during a pandemic. Bennett is concerned that users working from home might have extremely slow Internet connectivity — or no last-mile connectivity at all — if their Internet service providers aren't capable of handling the expected surge in usage.

The bigger problem, however, is that many job functions simply can't be performed remotely. "Sending everyone home to telework isn't viable in our business," Bennett says. Instead, Aetna is focusing on reducing workplace risks, by using its intranet and e-learning systems to train employees on practices such as "social distancing" (staying three feet away from others), the use of protective masks and gloves, and environmental cleaning.

At other businesses, remote access will be crucial. "The principal role of the IT team has been to enhance our remote working capability," says Dennis Jobin, managing director of the business continuity planning division at The Bank of New York Co. The bank is also ramping up its internal Web site to support more concurrent users.

Security is a concern. Businesses may want to distribute laptops in advance to ensure that endpoint devices coming into the virtual private network are properly secured, says Ross.

Bank of New York has a VPN but is in the final stages of choosing a thin-client, desktop application virtualization technology that's capable of securely supporting remote access by a large population of users working from home. The new system will securely support any computer equipped with a browser, thus eliminating worry about the security of home computers or supplying company laptops. Configuration and management will all occur on the back end. "The solution we choose will minimize or eliminate any visits to people's homes," says Jobin.

Cross-training employees can help the business cope with skills shortages by making it possible for remaining employees to get critical tasks done, but training must occur before a pandemic strikes. "That has to happen now. You can't wait," says Ross.

But cross-trained employees taking on new roles will need access to different parts of the company's computer systems. "Which applications you can use, which data you have access to, will change," Ross says, and identity management tools will be critical to such provisioning efforts.

Ultimately, dealing with a pandemic is a problem that must be coordinated at the executive management level through a cross-functional team. "IT is not the problem, nor the full solution," says Rawlins. But it is part of the solution. And in a true emergency, information systems might just be the glue that keeps employees in touch — and holds the organization together.

The Virtual Office

Executives — well, their avatars — could strategize in a virtual situation room using Second Life

If employees can't come into the office during a pandemic, why not bring the office to them?

Using Second Life, the popular 3-D virtual world researcher Colleen Monahan has done exactly that. Monahan, director of development at the Center for the Advancement of Distance Education at the University of Chicago, says the center recently worked with a large corporation (which she declined to name) to create a virtual human resources department and a situation room for executives.

"We created a space for them to experiment in different scenarios," says assistant director Kevin Harvey. "Why not just use videoconferencing?" The walls of the IT system may start to crumble in an emergency," Harvey says. By creating a virtual company, employees will have a place outside of the corporate firewall where they can meet around the virtual water cooler or reserve a conference room.

encing in Second Life employees meet by proxy using avatars.

The power of a 3-D world is a shared sense of space and community," Harvey says. But he also envisions a virtual HR department as a place employees can go for information or support. An avatar can sit down in a room and counsel them. We demonstrated that to [the business]," he says. Executives could also go to a virtual situation room to meet, get up-to-date information or strategize.

But how did the corporate business continuity planners feel about using a gaming Web site to exchange critical business information? Security, a big concern, Monahan acknowledges, although

you can create a private island in Second Life. On the other hand, if your other IT systems are down, a virtual company could come in handy.

You have to have other mechanisms in talk to each other and see each other," Monahan says.

The center is working on other projects, such as a Java applet for cell phones that provides basic information and leverages location-based services and text messaging to direct employees during a crisis.

Harvey says he is seeing increased interest in simulations for pandemic planning. We'll be building a pandemic flu simulation [soon], he says.

ROBERT L. MITCHELL

Adapt or Die

As security threats evolve, systems will have to become adaptive and resilient. BY GARY ANTHES

INTEL CORP. is developing a way for networked computers to "gossip" among themselves, sharing their experiences and "beliefs." The idea is to stay a step ahead of hackers.

For years, the backbone of computer security has been the use of tools, such as firewalls and virus scanners, that base their actions on knowledge, or "signatures," of past attacks. But this has two problems: The tools generally don't recognize new threats, and they can't be updated rapidly enough to deal with fast-spreading exploits.

FUTURE WATCH

The answer, IT researchers say, lies in new tools for "adaptive and resilient computing security," the name of a recent workshop sponsored by the Santa Fe Institute and BT Group PLC.

"Signature-based technology is limited," says Robert Ghanea-Hercock, a research engineer at BT in London and the leader of the workshop. "For cutting-edge day-to-day protection, you'll have to have adaptive things that monitor what's happening on the network in real time."

That's just what Intel is developing. "Anomaly detectors" at local nodes on a network look for evidence of worms, such as unusual spikes in activity. A machine that normally makes just a few network connections per second might suspect that something is amiss if it is suddenly instructed to make connections at a higher rate. So, using a peer-to-peer "gossip" protocol, it transmits to other machines its so-called belief, in the form of a probability, that the network may be under attack. If the total number of beliefs that any given machine receives from other nodes is high enough, it will assume that an attack is under way and take some defensive action, such as sounding an alarm or disconnecting from the network.

Intrusion-detection systems that look for anomalous behavior are not new. And it's not hard to detect an intrusion by a fast-spreading worm such as the infamous SQL Slammer, which infected more than 10,000 machines per second (response is a different matter). But more recently, hackers have deliberately slowed the spread of their malware so it will pass under the radar of conventional detectors.

The era of massive, highly visible worm attacks has largely passed, says Richard Ford, a computer science professor at the Florida Institute of Technology in Melbourne.

"Now what we are seeing is that hackers keep exploits close to their chests and use them for high-value targets," he says. "That dramatically changes the threat profile."

The Intel prototype, called Distributed Detection and Inference (DDI), uses Bayesian probability to detect these more stealthy worms. The idea is that if just one node is seeing a big increase in connections, that could be a temporary, random fluctuation, but 50 nodes experiencing even a modest increase in traffic very likely means that the network is under attack and that a protective response is warranted.

DDI's probabilistic thresholds can be adjusted to produce very few false positives, which would annoy users by shutting down the network unnecessarily, Intel researcher John Mark Agosta told workshop attendees.

"It's based on the law of large numbers," he says. "If I can average over a large number of signals, I can pull out a weak signal from the noise."

Technodiversity

False positives, which can inconvenience users and sometimes lead them to ignore warnings, and false negatives are the chief weakness of adaptive detection mechanisms and the reason they are often difficult to implement, Ghanea-Hercock says.

Nevertheless, adaptive security measures are beginning to creep into the commercial world, he says. For example, Microsoft Corp.'s Windows Vista has a feature called Address Space Layout Randomization that makes it harder for malware to find the code it wants to attack. ASLR puts certain critical code into different memory locations each time the machine boots up so that, in essence, every computer looks different to an attacker.

ASLR is an example of a principle computer scientists have borrowed from biology: Systems — of organisms or computers — are more robust when diverse. A population is most vulnerable to catastrophic failure when it is genetically homogeneous.

A network could be made more secure by making it more diverse — mixing Macs with PCs, or rolling out different versions of software, for example — but the trend is in the opposite direction, toward standardization. And with sameness comes exposure to risk, say the proponents of adaptive security methods.

While the research projects presented at the workshop dealt mostly with ways to make systems adaptive and resilient, Ford presented an idea for making users more adaptive. The idea is based on the observation that occasional small forest fires, which may scorch trees but not kill them, are beneficial because they remove combustible material before so much accumulates that the forest is vulnerable to a devastating inferno.

Ford has proposed that low-level virus or worm infections could be used to strengthen systems against catastrophic failures. In many biological systems, regular, moderate disruptions lead to rich diversity and, hence, resilience, he observes. Computer systems, in contrast, tend to be very brittle.

So Ford has suggested virtual "controlled burns," deliberate releases of nonvirulent worms onto the Internet. They would force administrators to strengthen and update their protective measures while doing far less damage than a malicious worm.

"The technical issues are dwarfed by the ethical and legal issues," Ford says of his proposal. "Nobody is publicly touching it with a 10-foot pole.

"I'm not suggesting we go out tomorrow and do it," he adds. "But we need to look at novel solutions, because what we are currently doing, long-term, isn't going to work."

Increased complexity
Increased connectivity
Increased sophistication of hackers and tools, as hackers adopt targeted, stealthy, hard-to-detect methods
Changing motives – hacking for money, not fun
Security that's often limited to perimeter defense
Too much reliance on user actions (passwords, patches, etc.)
Security tools that are mostly reactive (against known viruses, etc.)
Security tools that focus on individual nodes, not the network

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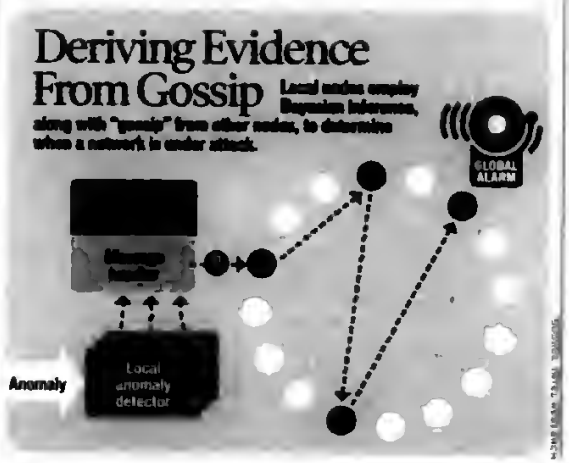

BRIEFS

Incipient Unveils SAN Virtualization

■ Incipient Inc. announced that its flagship product, the Incipient Network Storage Platform software suite for storage virtualization, began shipping commercially last month. The software runs on Cisco Systems Inc.'s MDS 9000 series of Fibre Channel switches with the 32-port Storage Services Module (SSM). The Waltham, Mass.-based vendor says the suite lets users migrate data within a SAN using switch-based storage virtualization software without disruption to applications. Pricing starts at $137,500 for each Cisco SSM blade in use or $275,000 for the recommended two-node configuration. Data snapshots cost an additional $45,000 for each Cisco SSM blade, or $90,000 for two nodes.

Heroix Enhances Central Monitor

■ Heroix Corp. in Newton, Mass., last month unveiled the latest version of its IT infrastructure monitoring and reporting product, LongitudeV4. It includes a centralized event monitor for diagnosis of system problems and a dashboard that displays metrics about applications, servers, databases, Web servers, e-mail and network devices, according to the vendor. Pricing starts at $299 per monitored system.

RTime Upgrade Adds Dashboard

■ QAVantage Inc. in Parsippany, N.J., recently released an update to its application development life-cycle management software. The vendor says RTime Version 4.0's new features include a Web-based reporting dashboard, better control over budget management and over time and cost estimates, and templates for various development and IT compliance methodologies. RTime costs $500 per user, plus an annual maintenance fee of 18%, with volume discounts for companies that buy licenses for more than 20 users.

MIKE ELGAN

Moving Beyond Hope As a Backup Strategy

YOU can find volumes of information about mobile data security — everyone knows that data on mobile devices, especially laptops, is at risk. But almost every article describes how to protect your company financially and legally from data loss. There's precious little guidance on how you can continue working on the road once that data is gone.

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Say you're on a business trip and your laptop is stolen or the hard disk dies. All the data on your laptop is backed up at the office, so no problem, right? Wrong. Your company is safe, but you're toast. Your presentation is gone. You can't do e-mail. Your calendar is unavailable. The files you updated on the plane are lost. You go from road warrior to roadkill in a single stroke.

Nobody is immune from this problem. Recently, I've seen three executives from the technology industry sent back to the information Stone Age (before people traveled with laptops) because they weren't prepared for losing data on the road. My guess is that most business travelers don't adequately protect against data loss while traveling. They're employing a "faith-based" strategy and simply hoping that nothing had happens.

True Horror Stories

There's so much that can go wrong when you're on the road, yet most people and their companies focus on protecting data that sits on corporate networks and company PCs. But laptops present a far higher risk. Here are two stories that illustrate what could happen to you.

I delivered a presentation last year with an executive who was his company's lead guy in a big merger. On the first day of his two-week business trip, his laptop's hard drive catastrophically failed, locking him out of all his data — his e-mail, his presentations, his Excel files. He spent the first day of his trip trying to bring the hard disk back to life. He spent the second day calling everyone involved in the merger to let them know he wasn't getting their e-mail. He spent the third day camping out at libraries, airport lounges, hotel business centers and other places with Internet connections. He ended up spending the holidays after his trip catching up with his work and trying to fix the damage to his projects — and his reputation.

Here's the second story. A well-known IT analyst recently had her carry-on bags lost by the airline. No, that's not a typo: The airline actually lost her carry-on bag. When the overhead bins filled up, the flight attendants asked passengers to leave additional carry-on bags at the front of the plane to be shipped as regular luggage. The luggage was promptly lost.

These stories highlight just two of the ways laptops are at risk. But there are many more threats out there. Crooks camp out at Starbucks and other Wi-Fi hot spots waiting for some poor sucker to use the bathroom. They can nab your laptop while you're stuck in the airport security line or from the overhead bin in an airplane while you're sleeping.

Damage is even more likely than theft. Laptop electronics are miniaturized and compressed into a smaller space than desktop PC components. Mobile hard drives tend to be smaller and more prone to error or damage. Laptops are easy to drop, spill something on or step on. They overheat — especially if you have one of those exploding batteries everyone is talking about.

All the traditional mobile data protection schemes carry risks and flaws. For example, backing up, or "ghosting," your laptop's drive to media such as an external hard drive won't do any good if you lose your whole laptop bag. Backing up your data to an online storage site might work, but it assumes that you'll have an Internet connection when you need to back up or restore — and that you'll have time to download all that data.

So, what's the answer?

The best way to protect your data is to back up to a secure, encrypted, biometric USB flash memory drive. You can carry password-protected flash storage drives in your pocket so they won't get stolen or lost along with your laptop. They are relatively fast and pretty cheap, and work with just about every PC out there. And the conspicuous fingerprint scanner on the outside not only safeguards your data if the drive is stolen, but acts as a deterrent to theft as well. Some of these disks even come with software that enables you to plug them into any computer and access your data and the applications used to create that data — or, at the very worst, compatible applications.

Don't rely on faith, hope and prayer when it comes to your data on the road — and don't believe data loss won't happen to you. Yes, protect your company. But protect yourself as well. Don't get caught with your laptop down.

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MANAGEMENT

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Q&A

Why New IT Managers Fail

Most new IT managers see themselves as leaders, use the rhetoric of leadership and feel its burdens, but they just don't get it. Harvard Business School's Linda A. Hill explains why. **PAGE 29**

Career Watch

What IT employers are looking for; the developer population boom; and six myths your HR department probably believes. **PAGE 30**

OPINION

Managing the Path to Wisdom

Most leaders take one of two approaches to developing new managers, but Paul Glen suggests that a little of each is the better route, and sustained effort is key. **PAGE 31**

A three-year effort transforms customers' businesses

By Thomas Hoffman

Sabre Holdings

HEADQUARTERS

BUSINESS

EMPLOYEES

REVENUE

NET EARNINGS

Sabre's Web services approach ha boosted business for Abacus International says [illegible] the company's director

duct calendar-based airfare searches. In the past, those types of requests would have been sent to a customer service agent.

Abacus, which is 35% owned by Sabre, is just one of more than 1,000 customers that have been using Sabre's Web services since 2005. Travel agents, airlines and other travel services companies are finding that Web services provide faster and easier access to Sabre's global distribution system, the world's largest electronic travel reservation system.

For Sabre, Web services provide an opportunity to break away from its decades-old approach of delivering mainframe-based services to travel industry customers and to dispense new products and enhanced services that can spur growth and generate additional revenue.

For example, an airline that uses Sabre's online reservation system can now tap into other Sabre applications more easily to compare fares or make hotel reservations for its customers, says Gordon Locke, vice president of marketing at Sabre Airline Solutions in Dallas.

Taking Flight

Sabre's Web services effort began as a research and development project in 2003 to help company executives determine how the use of a service-oriented architecture (SOA) could help its customers reduce the complexity and expense of accessing its online products and services, says Andrew Teel, senior principal architect at Sabre Holdings. Additional investments in 2004 enabled Sabre to introduce new and expanded travel services supported by the platform in 2005. Today, Sabre offers more than 50 products and services to its clients through Web services, including fuel and inventory management tools for airlines.

Prior to the Web services implementation, Sabre's electronic customers had to negotiate a layer of its communications software to get at the data they were seeking and then code the data to a specific format to obtain structured information, says Teel. That multistep process made it much more difficult for customers to integrate content with their own applications, he says, adding, "We saw Web services as a way to get out of that model."

Teel, who has overseen the multimillion-dollar effort, says Web services have enabled Sabre to create business models for its products based on its clients' abilities to obtain information themselves. This, he says, "has allowed us to attract more customers while providing our existing customers more flexibility in integrating our content into their systems and business activities."

Despite its move into Web services, Sabre doesn't have any immediate plans to discard its IBM and Amdahl mainframes, which are managed and operated by Electronic Data Systems Corp. "With such a high volume of data and applications, it's going to take a while to transition our customers off the mainframe," says Teel. But Web services have provided the company with an opportunity to distribute more of its processing onto lower-cost midrange and Linux systems that use Java, Teel explains. Some of the services that Sabre has moved onto its midrange platforms include its airfare and hotel shopping and pricing systems.

The result has been dramatic. "We've seen tremendous growth over the past 18 months," says Allen Appleby, director of customer access and content solutions for the marketing arm of Sabre's travel industry group. The number of travel agents and other Sabre customers using Web services-driven online reservations engines, call center systems and other applications has skyrocketed 500% since early 2005, he says. He expects Sabre to add 300 new online customers over the next three years thanks to Web services.

Sabre "is probably one of the more aggressive, forward-looking" travel companies in terms of its Web services strategy, says Ronald Schmelzer, an analyst at ZapThink LLC, a Waltham, Mass.-based SOA research and advisory firm.

But Sabre is certainly not alone. At least two of its travel industry competitors — Galileo International LLC and Unisys Corp. — began providing Web services to their customers before Sabre did, according to Forrester Research Inc. analyst Henry Harteveldt.

But pioneering Web services in the travel industry may not necessarily create competitive advantage, Harteveldt says. Sabre has embraced a set of Web services standards being developed by the OpenTravel Alliance (OTA). And because there are such extensive interrelationships among airlines, hotels and other travel-related companies, "being a fast follower might be better for [Sabre]" as the OTA standards become more widely adopted, Harteveldt says.

In December, Sabre announced its acquisition by Silver Lake Partners and Texas Pacific Group. Silver Lake Managing Director Greg Mondre cited Sabre's use of technology "as a competitive advantage and value-add for customers."

Self-propelled

Unlike many companies in other industries that have created Web services platforms with the help of off-the-shelf tools, Sabre elected to develop its own runtime infrastructure — the middleware needed to run Web services. A couple of factors played into this decision, explains Teel.

For starters, Sabre has a massive volume of data transactions — at one time, Sabre's mainframe-based Real-Time System was the largest system in terms of transaction volume outside the federal government. (One day in early October, Sabre Web services hit a new internal record by processing 21 million transactions in a single day.) So it made more sense for Sabre to create its own runtime layers and then tailor them to meet the needs of its businesses, which include Travelocity, Sabre Airline Solutions and Sabre Travel Network (including its global distribution system).

The state of the art in Web services also played a role. In late 2003 and early 2004, when Teel and his team evaluated the commercial tools then available to help develop a Web services infrastructure, "we determined that the market was fairly immature," says Teel. At the time, he says, Sabre had difficulty finding commercial systems that could meet its gargantuan performance and transaction-volume requirements.

But building your own Web services infrastructure is not necessarily onerous, says ZapThink's Schmelzer. Companies that have gotten immersed in Web services often discover that they're able to draw heavily upon their existing IT infrastructures, he explains. "You don't need a whole lot of new middleware to make SOA work," he says.

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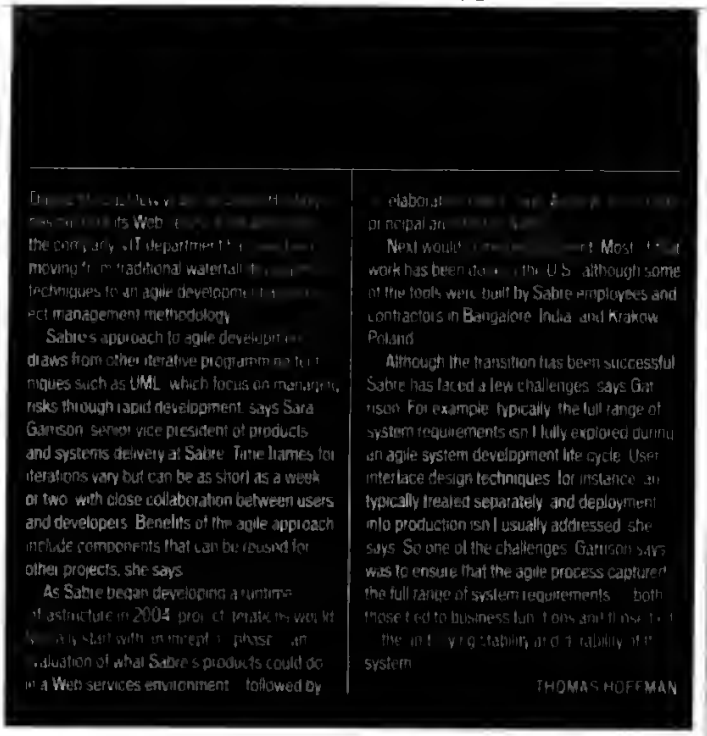
Sabre's Web services layer is a full Java implementation. The company uses Apache Tomcat servers running Linux. There's also a layer of C++ code used to integrate applications with Sabre's mainframe systems.

Looking ahead, Sabre plans to add other capabilities for its customers, and it will emphasize orchestrating various functions through Web services, such as the ability for travel agents to easily shop for airfares and hotel rates at the same time, says Chief Technology Officer Robert Wiseman, who joined the company in May from Cendant Corp.

"Our business is about delivering the best content we can in the most efficient way possible," says Wiseman. "Web services can do that for us."



[redacted] its Web [redacted] the company's IT department's [redacted] moving [redacted] traditional waterfall [redacted] techniques to an agile development [redacted] ject management methodology.

Sabre's approach to agile development draws from other iterative programming techniques such as UML, which focus on managing risks through rapid development, says Sara Garrison, senior vice president of products and systems delivery at Sabre. Time frames for iterations vary but can be as short as a week or two, with close collaboration between users and developers. Benefits of the agile approach include components that can be reused for other projects, she says.

As Sabre began developing a runtime [redacted] infrastructure in 2004, project [redacted] teams [redacted] would start with an inception phase, an evaluation of what Sabre's products could do in a Web services environment, followed by [redacted] elaboration [redacted] principal [redacted]

Next would [redacted] development. Most [redacted] work has been done in the U.S., although some of the tools were built by Sabre employees and contractors in Bangalore, India, and Krakow, Poland.

Although the transition has been successful, Sabre has faced a few challenges, says Garrison. For example, typically, the full range of system requirements isn't fully explored during an agile system development life cycle. User interface design techniques, for instance, are typically treated separately, and deployment into production isn't usually addressed, she says. So one of the challenges Garrison says was to ensure that the agile process captured the full range of system requirements — both those tied to business functions and those tied to the underlying stability and scalability of the system.

THOMAS HOFFMAN

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Why New IT Managers Fail

Common misconceptions about the role often doom novices.

Q&A *It's an old story: Brilliant individual contributor gets promoted to IT manager, then crashes and burns. But why? For 15 years, Harvard Business School professor* **Linda A. Hill** *has studied workers struggling with the transition to management. Difficult as that shift has always been, she says, it has become even harder as companies have gotten leaner, less siloed and more integrated with customers and suppliers. In this month's* Harvard Business Review, *Hill writes that although most new managers see themselves as leaders, use the rhetoric of leadership and feel its burdens, they just don't get it. She explained why to Kathleen Melymuka.*

Here I am in my first day as an IT manager after a stellar career as an individual performer. What's going to shock me? One thing is that there is a lot more to be learned than you had anticipated. The gap between what you know and what you need to know is greater than you thought, and you will need to learn while doing. Another thing: IT people who are technical often assume that their technical knowledge is going to be enough — "I am the most expert of the tech experts and will use my technical judgment to deal with difficult problems." Yes, but there will also be human problems where your technical talents are not the ones needed.

The other shock is how negative this all feels. The problems are those others couldn't solve. Only the things that are broken come to you.

You write that this transition is even harder now than it used to be. Why? Being a manager has become harder. Organizations are much more dynamic. The competitive environment is more dynamic. Organizations are having to adapt faster than in the past. As a manager, you have to figure out how that relates to what your group is doing, particularly with IT, which is in a support role. Support positions often are lower in power relative to line positions, so you have to be reactive; you have to adapt to them.

On other hand, you also need to have your own point of view about what matters and be proactive, so balancing that in a dynamic environment is really tricky. Also, in many organizations, you see more integration across functions and geographies. As organizations try to do things in a more integrated way, more stakeholders are interested in what you're doing, and they all have competing interests. You, as the IT manager, have to manage those trade-offs with all these peer organizations where you may not represent the high-power group. That's really hard.

Today's dynamic business environment creates management challenges. LINDA A. HILL

Let's talk about some of the misconceptions new managers bring to the job. What do they get wrong about their own authority? Often, you have a sense that with more authority [as a manager], you could implement some good ideas and improve things.

But soon you discover that formal authority is a limited source of power. So instead of being free to implement your ideas, you feel quite constrained and don't have as much influence as you anticipated. Then you realize that you have to establish credibility to get things done. And you're the little boss, not the big boss. You were at the top of the hierarchy, but now you're actually at bottom of a bigger hierarchy. And the groups you need to depend on are those over whom you have no formal authority: peers and bosses.

And that's not to say you have control over your direct reports either, right? No, you don't. And the more talented they are, the less they're going to do what you told them to do just because you told them to. You may have moved into a management role because you're good at technology, but suddenly people seem to be questioning your tech credibility. They trusted you yesterday, but not today, because they don't know if you're trustworthy in your new role. New managers are surprised and offended to find that.

You need to build that credibility — build sources of power. In IT, you need your people to use their judgment and take risks, and people only do that when they buy into what you've asked. Rather than establish control, you need to get their commitment. Build a culture where people feel committed rather than under the hard control of authority.

Talk about building individual relationships versus building a team. One of most common mistakes I see is new managers think, "There are 20 people in my group, so I need to establish a good relationship with each of the 20." So you literally try to have contact with each individual. That's difficult and time-consuming and not the same as harnessing the power of the group to get things done. If you have 20 individual conversations about priorities, that's not the same as if the group had heard the arguments and had a discussion and bought into the decision together. Also, to the extent that tech people are less comfortable with dealing with interpersonal conflict, some new managers will deal with conflict one on one but not during a team meeting. That means you don't have a constructive discussion, and people go off still holding whatever their position was. Finally, new IT managers often define a problem as a tech problem when there is also an interpersonal trust matter. Because you keep looking at tech issues, you don't look at what's going wrong in relationships.

You write that new managers also erroneously think they have to make things run smoothly. Not so? First off, you can't. Part of the mistake is you think you need to avoid conflict. But organizations are inherently political: There is a diversity of perspectives, there is interdependence, and there is competition for scarce resources, and in today's organizations, there is *more* of each. So by definition, organizations are conflictual. You can't avoid conflict; you have to deal with it. Your job as manager is to manage those conflicts and get things negotiated properly. You have to represent your group as well as do what's best for the organization. If everything is going smoothly, chances are not you're dealing with the tough stuff. ●

Real Authority

One new manager told researcher Linda A. Hill that the source of managerial power is "everything but" formal authority. So, from where do successful managers derive their power? Hill has discovered three qualities that contribute:

CHARACTER. The intention to do the right thing – something that's particularly important to subordinates.

COMPETENCE. Knowing how to do the right thing – not to be confused with technical prowess.

INFLUENCE. The ability to deliver and execute the right thing, derived from a web of strong, interdependent relationships based on trust.

Career Watch

HALF-TRUTHS

Sirota's Top Six Workplace Myths:

	No. of HR managers who believe it
1 Praise can serve as a substitute for money in motivating employees.	74%
2 Employees' immediate managers are the cause of most workers' problems.	73%
3 Employees who complain about their pay are really unhappy about something else.	67%
4 There are major differences between generations in what people want from their jobs.	67%
5 There are major differences between cultures and countries in what people want from their jobs.	63%
6 Profit-sharing is a major motivator of employee performance.	60%

A LOT OF [illegible] manager [illegible] believe that a bo[illegible] "Thanks" or "Thank [illegible]." According to Sirota Su[illegible] Purchase, N.Y., 74 [illegible] HR manager [illegible] surveyed [illegible] and they believe praise [illegible] money. That's wrong [illegible] and it's not the only myth [illegible] half truth that HR folks cling to. "Neither praise nor money alone [illegible] sufficient to satisfy employees," [illegible] David Sirota, chairman emeritus of the [illegible] and [illegible] Employee, H.W. Compa[illegible] Workers What They Want. [illegible] say, the vast majority of [illegible] basic things [illegible] in their work, positive and [illegible] relationships with [illegible] and fair treatment when [illegible] pay, benefits and job security.

"A thank you from the boss does not replace money, and money [illegible] substitute for praise," Sirota says. "All of these needs are critical. There are no significant differences in the three basic goals that people want from their work [illegible] occupation, industry, age, gender or culture."

> **Most of the computer products or devices that we use are designed by men, although half of the users are women. People ask why we need more women in computer science, and it is because we need more women who can build and design technology products, as well as to sell and manage them.**

PROFESSOR **WENDY HALL**, HEAD OF ELECTRONIC AND COMPUTER SCIENCE AT ENG AND S SOUTHAMPTON UNIVERSITY, SPEAKING TO BRITAIN'S PUBLICTECHNOLOGY NET PUBLIC SECTOR NEWS SITE. AS IN THE U.S., THE U.K.'S IT WORKFORCE IS DOMINATED BY MEN. IN BRITAIN, ONLY ONE FIFTH OF THE IT WORKFORCE IS FEMALE.

Paul Taylor

TITLE: Regional vice president

COMPANY: Hudson IT & Telecommunications, Chicago

Q&A

[illegible] IT recruiter [illegible] Taylor [illegible] the field [illegible] Jamie E[illegible] [illegible] contributing [illegible] market.

IT leaders have long talked about the need for both hard and soft skills. What's your take on the proper mix? As the world becomes smaller, so does the workplace. Business processes and areas of expertise are increasingly overlapping, with technology tying it all together. Service-oriented applications and architectures depend on the proper definition of business processes and their successful modeling. No longer can IT stand alone in determining what comprises a system that must be done hand in hand with the business. Consequently, it is increasingly important that technology professionals possess both technical expertise and business acumen. Individuals that will succeed in this ever-changing market will have a strong technical background, business aptitude and interpersonal skills.

Are you having any difficulty in finding that mix? Are there particular sources that produce more ideal IT professionals? It has always been difficult to find the "correct" mix in any given market. The challenge that recruiters always face is finding the right mix to meet the individual client's corporate culture. Organizations that typically produce IT professionals that have the aptitude to adapt to a variety of cultures and possess technical expertise with business savvy are still the Big Four consulting firms and Fortune 500 organizations that have very mature IT leadership development programs. However, the best sources to find the proper blend remain networking and personal referrals.

There seems to be a disconnect between the image many in IT try to project – dynamic personalities using cutting-edge technology – and the image the public perceives. Based on current computer science enrollments, the public's perception seems to be largely negative. Why is that? Public perception can be broken into two parts. First is the image of IT professionals within companies. IT's roots are in the back rooms, where there was little interaction with the business at large. While that has changed for the most part, even today, only organizations that really value IT will place the team and its leadership in highly visible roles. The second part of IT's negative perception is based on the fact it appears to be a bleak career. The decline in enrollment is a direct reflection of the offshoring trend as well as the massive layoffs during the dot-com bust.

While there may be a decline in computer science majors, the number of business students has not declined, and these students will become part of the future of IT. Well versed in technology, these business majors will lead in the development of the processes to propel business forward.

BY 2009, THERE WILL BE 17 MILLION developers worldwide, according to projections by Evans Data Corp. in Santa Cruz, Calif. That's nearly equal to the entire population of metropolitan New York, a sprawling area that includes New York City, its suburbs in New York and southwestern Connecticut, Long Island, northern New Jersey and even bits of Pennsylvania.

The countries with the most developers in 2009 will be the U.S., India and China, which will supplant Japan in the top three, according to Evans. All told, those 17 million developers will represent an increase of 46% from 2005.

81%, 15%

Increases in the number of developers in the Asia-Pacific region and North America, respectively, from 2005 to 2009.

PAGE COMPILED BY JAMIE ECKLE

Career Watch

HALF-TRUTHS

Sirota's Top Six Workplace Myths:

"Most of the computer products or devices that we use are designed by men, although half of the users are women. People ask why we need more women in computer science, and it is because we need more women who can build and design technology products, as well as to sell and manage them.

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EXEC TRACK

Schuckenbrock to Lead Dell Services

STEVE SCHUCKENBROCK has been named senior vice president of global services at Dell Inc. He will report to CEO Kevin Rollins and serve as a member of the Dell Global Executive Management Committee. Previously, Schuckenbrock was co-chief operating officer and executive vice president of global sales and services at Electronic Data Systems Corp. Before that, he was COO at The Feld Group Inc. and global CIO at PepsiCo Inc.

Parexel International Names Rieder CIO

Parexel International Corp., a Waltham, Mass.-based global biotechnology and pharmaceutical company, has appointed **CHRISTOPHER RIEDER** to the newly created post of CIO. Previously, Rieder was vice president of IT at Kos Pharmaceuticals Inc. He also held senior IT management positions at BRI International Inc. and North American Vaccine Inc.

Cliburn Is Tapped To Be Ceridian's CTO

Ceridian Corp., a Minneapolis-based human resources outsourcing company, has named **PERRY CLIBURN** executive vice president and chief technology officer. He will report to CEO Kathryn V. Marinello. Previously, Cliburn was senior vice president and CIO at Hewitt Associates Inc. Prior to that, he held senior IT leadership positions at First Data Corp. and Arthur Andersen LLP.

Market Research Firm Picks Micali for CIO

Taylor Nelson Sofres PLC, a London-based market research company, has appointed **ENZO MICALI** CIO of its North American custom research business in New York. Previously, Micali was CIO at 1-800-Flowers.com Inc. and chief technology officer at InsLogic, a business-to-business software provider.

PAUL GLEN

Managing the Path to Wisdom

EACH OF US wants to work for, be and/or become a wise manager. One of the most important yet frequently neglected responsibilities of leadership is developing managerial capacities — our own, those of managers who work for us and those of future managers. Vital, growing and sustainable organizations need a steady supply of managerial talent.

I've spent a lot of time over the past few years observing, probing and thinking about how leaders can and do address this issue given the practical constraints of business life. What I've noticed is that mostly people don't get around to it very often, and when they do, they pay attention in spasmodic bursts of goodwill that dissipate quickly. They are so busy with day-to-day exigencies that long-term obligations remain forever a second priority.

PAUL GLEN is the founder of the GeekLeaders.com Web community and the author of the award-winning book *Leading Geeks: How to Manage and Lead People Who Deliver Technology* (Jossey-Bass, 2003). Contact him at info@paulglen.com.

Interestingly, when leaders do get around to working on this, I've noticed that most seem to assume that managerial wisdom comes from one end or the other of the learning spectrum.

At one end is experience. I'm sure that experience is a great teacher, but I'm not so sure how reliable a measure of smarts it is. So much depends on whether the student has been paying attention. We all know plenty of people who have lots of experience but little wisdom to show for it. Just because reality has washed over your decks and you have survived doesn't necessarily imply that you've learned much about smooth sailing.

Leaders and organizations operating under this assumption predictably try to cultivate new managers by either selecting them based on their experience or attempting to develop them by creating opportunities for new experiences. They design rotation programs, assign mentors and select work assignments carefully.

At the other end of the spectrum is the academy. Here, the empty vessel of the mind is filled with the facts, theories, models and ideas of the learned professor and the prestigious institution. Formal education offers an opportunity to absorb information and thus generate wisdom. The proxies for measuring this sort of learning are a combination of accredited degrees, industry certifications and butt-in-seat time. Of course, these also prove to be limited measures of smarts. We all know people with lots of letters after their names who can't seem to put together a coherent thought, let alone react wisely to real-life situations.

Leaders and organizations operating under the assumption that formal learning begets wisdom also respond predictably. They hire and promote keeping one eye on the candidate and the other on his transcripts. They invest in training programs, pay for degree programs and send people to industry conferences.

Despite the good intentions and hard work of everyone involved, the success of each type of initiative often seems modest, or at least less dramatic than one would want. It seems to me that a few key problems make this so.

Experience is just experience unless its lessons are processed and absorbed. Doing this requires focused reflection — just what busy managers have no time for.

Theory often doesn't connect to reality. No matter how good academic ideas are, if they remain confined to the discrete universe of the classroom, they offer no practical help.

Learning to lead requires sustained engagement. But what we typically give it is short, intense engagement. Insights not revisited and reinforced over time are easily lost.

I'd like to suggest an alternative tu either of the extremes.

1. Recognize that neither side of the spectrum has a corner on the best results. What seems to work best is a combination of experience and theory. When they meet up, people learn the most.

2. Encourage frequent engagement with the topic. A little time every week probably is better than a lot of time once a year. The more regularly people think about their experiences and management theory, the more likely they will actually develop their minds and change their behavior.

3. Encourage conversations. A little time talking to another person can often spur thoughts that might take each individual hours or days to develop on his own.

Developing good managers need not be an onerous job, but it requires regular low-level consideration. You may do the most good by focusing your attention on creating an environment in which people recognize that learning is valued, possible and expected — no heroics required.

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THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

REQUEST FOR PROPOSALS (RFP# 12016) FOR HOSTED MICROSOFT EXCHANGE E-MAIL AND ADMINISTRATION SERVICES

The Port Authority is seeking proposals from qualified firms interested in providing Hosted Microsoft Exchange E-mail and Administration Services.

The successful firm will provide high quality, secure, reliable and highly available (24x7) hosted Microsoft Exchange E-mail and administration services with the vendor's off-site data center facilities and server infrastructure (located within the continental United States) to provide Microsoft MSI Exchange mail to the Port Authority with features of Exchange Outlook, including calendaring and scheduling with conference rooms, public folders, distribution lists, contacts, Active Directory for the MS Exchange resource domain/forest structure, with hosted or third party spam protection and virus protection services. Access to this environment is currently via dedicated circuits using Outlook MAPI client access, Outlook Web Access, and wireless access (BlackBerry Enterprise Server). Outlook desktop administration is not being provided through this service. However, interface with the Authority's Help Desk to determine and resolve 2nd and higher level service-related problems, including MS Exchange Outlook, is required. Contract term: 3-year base period, term with options.

The Port Authority will conduct a pre-proposal meeting for all parties interested in submitting proposals to this RFP, which will commence on January 12, 2007, at 1:00 P.M. sharp. All interested parties shall meet at the Procurement Department, Purchasing Services Division, Port Authority of New York & New Jersey, One Madison Ave., Seventh floor, New York, N.Y. 10010.

Interested parties shall contact Nadine Aziz at (212) 435-3934, or e-mail nazis@panynj.gov, Monday through Friday between the hours of 8:00 A.M. and 4:00 P.M. to confirm their attendance and/or to receive traveling directions. Two forms of photo ID are required to gain access to the building; no exceptions permitted.

Sealed proposals will be accepted at the address indicated below until 2:00 pm February 15, 2007. Documents can be requested via e-mail at asklcpd@panynj.gov or you can fax your proposal request to 212 435-3959. Reference **RFP# 12016** on all requests. Send bids to: The Port Authority Of NY & NJ, Purchasing Services Division, Procurement Department, One Madison Avenue, 7th Floor, New York, NY 10010.

LEAD APPLICATIONS CONFIGURATOR (SIEBEL™ e-CONSUMER GOODS) A Massachusetts-based company, involved in the worldwide research, development, manufacture, marketing and sale of audio products and technologies, seeks a Lead Applications Configurator (Siebel™ e-Consumer Goods). This highly technical lead position involves the analysis, design, configuration, implementation, support, and documentation of the functional software modules relevant to a load balanced, n-tiered, multi-server Siebel e-Consumer Goods application environment running on an Oracle 8i / Linux platform. This position supports highly-dynamic field sales and multi-site call center operations and project teams, analyzing needs and requirements, and then implementing Siebel-specific configuration solutions. It also calls for ongoing, 24 hour / 7-day phone-available support coverage. Minimum education required is a Bachelor's degree in Computer Science, MIS, Mathematics, or similarly relevant field. Experience required is eight (8) years of relevant pre- or post-degree experience (or a relevant Master's-level program and 6 years experience may be substituted in lieu of 8 years experience) involving multi-platform systems analysis and programming of business systems, at least four (4) years of which specifically involved Siebel™ configuration and scripting for direct-to-consumer businessed production support, and included multi-site Siebel CTIConnect's Computer Telephony Integration (CTI). Specifically required is the demonstrated ability to configure and deploy Siebel™ e-Consumer Goods v 7.5.2.2xx release in a Resonate™ load-balanced, multi-server environment; configure and support Siebel Sync and Siebel Anywhere for a mobile client user community; perform Siebel™ 8.x 7.5.2.2xx upgrades on a heterogeneous, n-tiered infrastructure utilizing an Oracle™ 8i database; configure and deploy Siebel™ Sales Handheld for Windows on handheld devices and support multi-application call center and field sales operations using Autosys to create batch processing. Precise to monitor and tune a database and Business Objects to customize transactional analytics reports. Annual base salary is $86,300 for 5 day-40 hour week, together with ten (10) days paid vacation, mandatory medical and life insurances and other industry-competitive benefits. Job Location: Framingham, MA. Qualified applicants should send resume referencing Job Order Number 36461673 and ETA Case Number P-05174-83072-BHo, by fax to (484) 270-1600 or by mail to Backlog Elimination Center, Employment & Training Administration, Division of Foreign Labor Certification, 1 Belmont Avenue, Suite 220, Bala Cynwyd, PA 19004. An EOE/MF/H/V.

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Juniper Networks in Sunnyvale, CA is currently recruiting for: IT Technical Staff, #1120. Provide IT support for engineering applications and other internal processes. Mail resumes with job code # to: Attn: MS A3.1.1.200, Juniper Networks, 1194 N. Mathilda Avenue, Sunnyvale, CA 94089.

Programmer Analyst needed w/2 yrs. exp. to analyze, develop, debug & implement in-house custom application using Java, JavaScript, Visual Basic Script, MS Access, C, C++ & Oracle on Windows NT and Unix. Mail resumes to: Ramada Inn Eastside, 161 Lexington Ave., NY, NY 10016.

CHIEF SOFTWARE ARCHITECT (LOCALIZATION SOFTWARE) A small enterprise software company in the suburban Boston area engaged in the development and implementation of software for translating and synchronizing multi-lingual content has an immediate need for a highly skilled Chief Software Architect (Localization Software). This senior-level unsupervised technical position has overall responsibility for the software architecture, multi-site development databases, configuration management and technical marketing support of a specialty server-based (J2EE) enterprise software product for translating and synchronizing multilingual content (a globalization management system). The position duties involve independently design and develop successfully implemented commercial Java-based enterprise server software architect high-availability clustered enterprise J2EE software systems and supervise the activities of an overseas software development team; install, administer and use Microsoft SQL Server 2000 and Oracle 8 database server use and administer Rational ClearCase and perform release management and publicly present and demonstrate technically complex software products in support of marketing, sales and sales engineering. Minimum educational requirements include a Bachelors degree in Computer Science and at least eight (8) years post-degree industry experience involving primarily Java and J2EE software development for commercial applications, at least 2 years of which specifically involved development of server based translation memory software. Annual base salary is $125,000 per year for a 5 day/40 hour week together with fifteen (15) days paid vacation, contributory medical and life insurances and other industry-competitive benefits. Job Location: Waltham, MA. Qualified applicants should send resume referencing Job Order Number 36394496 and ETA Case Number P-05171-71814-BWr-9 by fax to (484) 270-1600 or by mail to Backlog Elimination Center, Employment & Training Administration, Division of Foreign Labor Certification, 1 Belmont Avenue, Suite 220, Bala Cynwyd, PA 19004. An EOE/MF/H/V.

Application Software Engineer. FalconStor Software, Inc. in Melville, NY. MS Req'd. e-mail Careers@FalconStor.com or mail Attn: HR Dept., 2 Huntington Quadrangle, Suite 2S01, Melville, NY 11747.

Software Engineer w/Masters or foreign equiv. in Comp. Sci. or Engg. or Math & 1 yr. exp. Will accept bachelors or foreign equiv. & 5 yrs. of progressive work exp. in lieu of Master's & 1 yr. exp. Analyze, design & develop ASP solutions (Application Server Provider) using Windows 2000, IIS Server, Visual Interdev, Active Server Pages, MS SQL Server, Oracle, VB, HTML, DHTML & XML. Recommend systems solutions, draft written specifications, charts, object models & design S/W applic. Dev & install new S/W projects & adhere to the project plans. Test & document the software applic. that are already developed on a timely basis. Mail res. to: Modulemd, LLC, 49 South Cass Street, Suite 1B, Battle Creek, MI 49017. Job loc: Battle Creek, MI.

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Software Engineer w/Masters or Foreign Equivalent in Engg. or Comp. Sci. or Math & 1 yr. exp. to research, analyze, design & develop server side programs using MS SQL Server. Create & administer databases in T-SQL using stored procedures, DTS functions & triggers. Install MS Analysis Server on 64 bit failover cluster. Design build & process cubes in ROLAP using MS Analysis Servers. Clusters Fogight Visual SAN Navisphere Manager & EMC Snapview on Windows & SAN env. 1 yr. exp as Project Associate is acceptable. Exp. prior to completion of Masters deg. is acceptable. Mail resumes to: Bgam Information Tech. Inc., 3525 W. Peterson Ave., Ste. #310, Chicago, IL 60659.

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COMPANIES IN THIS ISSUE

Page number refers to page on which story begins. Company names can also be searched at www.computerworld.com

1 800-FLOWERS.COM INC. 31
ABACUS INTERNATIONAL PTE. 27
ADOBE SYSTEMS INC. 7, 10
ADVANCED SEMICONDUCTOR ENGINEERING INC. 9
AETNA INC. 22
AGILSYS INC. 12
ALCATEL-LUCENT SA 10
AMERICAN CIVIL LIBERTIES UNION 35
AMERICAN HOSPITAL ASSOCIATION 12
APACHE SOFTWARE FOUNDATION 27
APPLE COMPUTER INC. 10
ARROW ELECTRONICS INC. 12
ARTHUR ANDERSEN LLP 31
AT&T INC. 10
BELLSOUTH CORP. 10
BENQ MOBILE GMBH 8
BRI INTERNATIONAL INC. 31
BT GROUP PLC 24
BUREAU OF ALCOHOL, TOBACCO, FIREARMS AND EXPLOSIVES 35
CARESPARK 13
CARREKER CORP. 13
CENDANT CORP. 27
CENTER FOR INFECTIOUS DISEASE RESEARCH AND POLICY 22
CENTER FOR THE ADVANCEMENT OF DISTANCE EDUCATION 23
CENTERS FOR DISEASE CONTROL AND PREVENTION 22
CERIDIAN CORP. 31
CHECKFREE CORP. 13
CHINA INTERNET NETWORK INFORMATION CENTER 8
CISCO SYSTEMS INC. 6, 12, 26
COMSCORE NETWORKS INC. 10
CONGRESSIONAL BUDGET OFFICE 22
COZEN O'CONNOR 8
CRAY INC. 35
DARTMOUTH COLLEGE 8
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY 35
DELL INC. 31
DELOITTE & TOUCHE LLP 16
DELOITTE CENTER FOR HEALTH SOLUTIONS 22
DEUTSCHE TELEKOM AG 8
DRUG ENFORCEMENT ADMINISTRATION 35
ELECTION SYSTEMS & SOFTWARE INC. 8
ELECTRONIC DATA SYSTEMS CORP. 27, 31
ELECTRONIC FRONTIER FOUNDATION 8
ELECTRONIC PRIVACY INFORMATION CENTER 35
ELECTRONIC REGISTRY SYSTEMS INC. 6
ELECTRONICS CORPORATION OF TAMIL NADU LTD. 8
EMAZE NETWORKS SPA 7
EVANS DATA CORP. 30
EVANSTON NORTHWESTERN HEALTHCARE 12
FAIRCHILD SEMICONDUCTOR CORP. 9
FAIRFAX COUNTY CHAMBER OF COMMERCE 8
FARPOINT GROUP 8
FEDERAL BUREAU OF INVESTIGATION 6, 7
FEDERAL BUREAU OF PRISONS 35
FEDERAL COMMUNICATIONS COMMISSION 10
FIRST DATA CORP. 31
FLORIDA DIVISION OF ELECTIONS 6
FLORIDA INSTITUTE OF TECHNOLOGY 24
FORRESTER RESEARCH INC. 23, 27
GALILEO INTERNATIONAL LLC 27
GARTNER INC. 10
GEEKLEADERS.COM 31
GERMAN FEDERAL ARMED FORCES 9
GLOBAL ADVANCED PACKAGING TECHNOLOGY LTD. 9
GOOGLE INC. 10, 14
HARRIS CORP. 7
HARVARD BUSINESS SCHOOL 29
HENKEL'S & MCCOY INC. 8
HEROIX CORP. 25
HEWITT ASSOCIATES INC. 31
HIGH TECH COMPUTER CORP. 7
HOSTED SOLUTIONS LLC 6
HUDSON IT 8
IBM GLOBAL SERVICES 22
IBM 9, 27, 35
IDC 12
IEEE-USA 8
INCIPIENT INC. 35
INFORMATION TECHNOLOGY ASSOCIATION OF AMERICA 9
INSLOGIC 31
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS INC. 8
INTEL CORP. 24
INTERNAL REVENUE SERVICE 12
INTERNATIONAL CENTER FOR ENTERPRISE PREPAREDNESS 22
INTERNATIONAL NETWORK SERVICES INC. 16
IRONPORT SYSTEMS INC. 12
JUPITERRESEARCH 14
KEYLINK SYSTEMS GROUP 32
KICHLER LIGHTING 16
KOS PHARMACEUTICALS INC. 31
LOTUS DEVELOPMENT CORP. 8
MADCAP SOFTWARE INC. 10
MAXIMUS INC. 10
MICHIGAN SCHOOLS AND GOVERNMENT CREDIT UNION 6
MICROSOFT CORP. 7, 9, 10, 24
MYSPACE.COM 14
MYSQL AB 12
NATIONAL ALLIANCE FOR HEALTH INFORMATION TECHNOLOGY 12
NEW YORK UNIVERSITY 22
NORTEL NETWORKS CORP. 10
NORTEL NETWORKS LTD. 8
NORTH AMERICAN ELECTRIC RELIABILITY CORP. 6
NORTH AMERICAN VACCINE INC. 31
NORTH MEMORIAL HEALTH CARE 12
OHIO SUPERCOMPUTER CENTER 25
OPENOFFICE.ORG 6
OPENTRAVEL ALLIANCE 27
PAREXEL INTERNATIONAL CORP. 31
PEAK 10 INC. 6
PEPSICO INC. 31
POWERCHIP SEMICONDUCTOR CORP. 9
PROMOS TECHNOLOGIES INC. 9
PS'SOFT INC. 10
PUBLICTECHNOLOGY.NET 30
QAVANTAGE INC. 25
SABRE AIRLINE SOLUTIONS 27
SABRE HOLDINGS CORP. 27, 28
SABRE TRAVEL NETWORK 27
SANTA FE INSTITUTE 24
SAP AG 9
SEAGATE TECHNOLOGY LLC 9
SECUINA APS 6
SIEMENS AG 8
SILICON GRAPHICS INC. 35
SILVER LAKE PARTNERS 27
SIROTA SURVEY INTELLIGENCE 30
SOUTHAMPTON UNIVERSITY 30
SPECTRALINK CORP. 8
SPI DYNAMICS INC. 7
SPRINT NEXTEL CORP. 7
STARBUCKS CORP. 25
STATE UNIVERSITY OF NEW YORK AT ALBANY 24
SUN MICROSYSTEMS INC. 35
SYSTEM GENERAL CORP. 9
TACONIC HEALTH INFORMATION NETWORK AND COMMUNITY 12
TACONIC IPA INC. 12
TAYLOR NELSON SOFRES PLC 31
TECHNORATI INC. 14
TEXAS PACIFIC GROUP 27
THE BANK OF NEW YORK CO. 23
THE BOEING CO. 15
THE FELD GROUP INC. 31
TRAVELOCITY.COM LP 27
U.S. BUREAU OF CITIZENSHIP AND IMMIGRATION SERVICES 6
U.S. CENSUS BUREAU 7
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 1
U.S. DEPARTMENT OF HOMELAND SECURITY 22
U.S. DEPARTMENT OF JUSTICE 1
U.S. DEPARTMENT OF LABOR 9
U.S. ENVIRONMENTAL PROTECTION AGENCY 6
U.S. GOVERNMENT ACCOUNTABILITY OFFICE 8
U.S. MARSHALS SERVICE 35
U.S. SECURITIES AND EXCHANGE COMMISSION 10
UNISYS CORP. 27
UNITED PARCEL SERVICE INC. 22
UNIVERSITY OF CHICAGO 23
UNIVERSITY OF FLORENCE 7
UNIVERSITY OF MINNESOTA 22
VERISIGN INC. 7, 10
WAKEMED HEALTH & HOSPITALS 8
WIKIPEDIA 14
WORLD HEALTH ORGANIZATION 22
XINHUA NEWS AGENCY 8
YOUTUBE INC. 14
ZAPTHINK LLC 27

ADVERTISERS' INDEX

CA ... 38
Chrysler ... 17
Hewlett-Packard ... 4
IBM ... 11, 13
Microsoft Exchange ... 19-21
Microsoft Live ... 2-3
Network Instruments ... 37

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DARPA Pushes to Bring Supercomputers to the Masses

$650M defense development effort also aims to gain commercial users

BY PATRICK THIBODEAU

The Defense Advanced Research Projects Agency's multiyear, $650 million mission to develop high-performance supercomputers is more than just a hardware project, said DARPA officials. The contractors must ensure that the systems are productive and easy to use for both national security and commercial applications.

Therefore, the DARPA effort also involves building programming languages, development tools and methods for scaling applications across tens of thousands of processors.

"High-performance computing is at a critical juncture," said William Harrod, manager of DARPA's High Productivity Computing Systems program.

Cray Inc. and IBM in November won contracts valued at $500 million to develop "economically viable high-productivity" supercomputers by the end of 2010, he noted.

The agency's development effort began in 2002 with five vendors. The two remaining suppliers have been tasked with delivering a line of systems whose high end is capable of sustaining petaflop speeds and securely running national defense and commercial applications.

Building such systems requires a programming environment that Harrod said "is easier to use and that has less of a learning curve than the environments on today's HPCs," or high-performance computers.

The new systems will also need an architecture and an operating system that enables efficient execution, he said.

A Single Language

Current programming languages require an enormous amount of effort from coders to transform ideas into algorithms and then turn that work into something that can run on a supercomputer, said Stanley Ahalt, executive director at the Ohio Supercomputer Center in Columbus.

"Right now, we have a collection of codes written in older languages that are very difficult to modify," he said, citing languages like Fortran.

Under the contract with DARPA, Cray is developing a programming language called Chapel and IBM is developing what it calls x10 to address these problems. Only one language will emerge from the research, officials said.

"There will be one language at the end of the day, and the government, multiple companies and HPC user communities are going to have to put in some effort to adopt [it]," said Steve Scott, chief technology officer at Cray.

Tony Befi, a vice president in IBM's HPC group, said engineers are working to make the systems more productive so that they will be more cost-effective and attractive for broad commercial uses.

"There is money that could be spent if these assets were usable and productive enough to warrant the investment," he said.

Continued from page 1

Data Sharing

"The problem is the ease with which the information held by multiple agencies can be accessed in one place," said Allison Knight, staff counsel at the Electronic Privacy Information Center in Washington. Any inaccurate data stored in OneDOJ could be quickly disseminated to a large number of law enforcement officials, she said, adding that the DOJ should enable people to correct erroneous information.

Knight also said that the centralized database could become a big target of hackers and other unauthorized users. DOJ officials need to ensure that deep security and safety mechanisms are in place to prevent breaches, she said.

OneDOJ is "far more than just bringing together all the information they have," said Barry Steinhardt, director of the technology and liberty program at the American Civil Liberties Union. "Once you put all the information in one place, it enables the kind of data mining that's not possible by traditional law enforcement."

One problem, Steinhardt added, is that the DOJ, and the FBI in particular, have been "notoriously inept at managing [their] computing resources."

For example, the FBI in 2005 scrapped a three-year, $170 million effort to develop an automated case management system and is now pursuing a project called Sentinel that isn't due for completion until late 2009. And the DOJ received a D grade for computer security on an annual report card issued by a congressional committee last March.

"Maybe they ought to get their house in order to increase confidence in their IT systems," Steinhardt said.

But McNulty wrote in his memo that in order to fulfill its law enforcement mission and help prevent terrorism, the DOJ is "committed to sharing as much information as possible, lawful and practicable." He added that OneDOJ "enables and indeed obligates" the agency's units to aggressively expand their information-sharing capabilities.

"Everyone recognized the need for improving information sharing after 9/11," DOJ spokesman Dean Boyd said last week. The data stored in OneDOJ is available to state and local law enforcement now, Boyd said, but they must get the information from individual DOJ units.

"What [OneDOJ] does is simply consolidate that information in a way that state and local authorities can access it in a single portal," Boyd said.

OPEN BOOK

> **"The [DOJ] remains committed to sharing as much information as possible, lawful and practicable. We must work to achieve this objective without delay and within the confines of our present resources – always searching and striving for ways to get more out of our existing systems and assets.**
>
> FROM THE DEC. 21 MEMO WRITTEN BY **DEPUTY ATTORNEY GENERAL PAUL J. McNULTY**

"We clearly feel that this is not a new giant database in any way but is a new way for law enforcement to use information that is available to them."

Data Safeguards

Boyd said the database has high-level safeguards and includes an access log that keeps records of all users who search and review the database. He wouldn't identify the software that the DOJ is using for the database, which contains about 1 million records now and is expected to triple in size within three years.

The DOJ's Hitch was unavailable for an interview about OneDOJ last week.

Work on OneDOJ began in late 2005, and pilot projects linking the database to local and regional information-sharing systems in locations such as Seattle and San Diego were launched last year.

In his memo, McNulty wrote that the DOJ will support a set of common standards with OneDOJ and remain vendor-neutral, allowing state and local governments to use any compatible systems. Boyd said the standards include terminology and data exchange specifications and an XML data model that are built into the National Information Exchange Model, which was created by the DOJ and the Department of Homeland Security in 2005.

McNulty ordered the DOJ's units to share information on open and closed cases, as well as criminal event data, criminal history records and identifying information about offenders. The memo was addressed to all of the 93 U.S. attorneys and to the directors of the FBI, the Drug Enforcement Administration, the U.S. Marshals Service, the Federal Bureau of Prisons and the Bureau of Alcohol, Tobacco, Firearms and Explosives.

According to the memo, the DOJ won't disclose information that endangers national security or the lives of law enforcement personnel, witnesses "and certain crime victims." Data about public corruption cases and some civil rights investigations will also be withheld, McNulty wrote.

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Don't Just Say No

IT'S AN OLD STORY: A sales manager comes up with a great system for squeezing maximum results from his salespeople and uses spreadsheets to support the process. Another sales manager thinks this is a great idea and proposes scaling the whole works up to support many more salespeople. IT says no, we don't have the resources to build this, and if you do it yourself, we won't support it. Sales hires a programmer who whips up a database-driven version. The dog and pony show wows the CEO, who throws his support behind the project. But it turns out the new software breaks some existing applications and even corrupts critical data. And a year later, it's IT's job to fix the problem.

How did IT get into this mess? By just saying no.

January is when proposals to turn this or that user-created spreadsheet hack into a real application start to bubble up. Hey, it's a new year (even though it's not a new IT budget year), a time for new ways of thinking and better ways of doing things. The fact that there's no money for new projects in IT's budget doesn't dampen users' enthusiasm.

So what they propose, you dispose of with IT's favorite word: no. And you figure that by saying you won't do it and won't support it, you're off the hook.

That's naive — almost as naive as users' ideas about how easy it will be to create those real applications.

Look, IT's ability to stop a project just by saying no is long gone. Users figured out in the 1980s that they could buy their own computers and program their own spreadsheet applications. They discovered in the 1990s that they could rent space to create their own Web pages and even hire freelance programmers. Today, when IT says, "No," they say, "So what?" and do it themselves.

But their priorities aren't IT's priorities. They're mainly concerned with getting their apps to work as quickly and cheaply as possible. You, on the other hand, have to think about corporate standards and maintainable code and bandwidth limitations and upgradability — and, most of all, making sure the new software won't break your old software.

When you say no, you don't stop the project. You just lose your chance to make sure IT's priorities get into the mix. You cut yourself off from the project until something has broken horribly, just when fixing the problem is most expensive.

In other words, by saying an ineffective no, you maximize the cost of the fix and look like an obstructionist in the process.

But you can't say yes, either. The money just isn't there in the IT budget. The IT staff is still booked solid.

Maybe it's time to stop thinking there are only two choices. Maybe it's time to say, "We can't do it, and we won't support it, but we'd like to help."

After all, you don't have to control these projects completely. You can't afford to own them, but you don't need to. What you really want is to make them just a little more successful, so they don't cause problems with your existing apps.

That might be as simple as laying a single requirement on the table: "Must play nicely with existing applications."

Or it might mean offering to help test the new app's compatibility. Or offering suggestions, hints and tips for the project. Or doing light oversight, or even formal reviews of the work as it's done.

FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

The key is leaving the project's cost and effort in users' hands, but participating just enough to keep the project from raining grief on IT down the line.

It won't eliminate all the problems you could get from user-generated IT projects — users are endlessly inventive. But at least you'll have a hand in it, and you'll know a little more about what else may go wrong. If you're lucky, the users may even thank you for not just saying no.

And you'll have one less mess to deal with this time next year. ◗

SHARK TANK

Learning Experience

User complains that his PC sometimes makes "a sound like thunder." And for three months, the problem has this pilot fish stumped. "I check for speaker interference, knees against the keyboard tray, error dialogs, malware – no luck," fish says. "Then one day there's a power outage, and the user's PC reboots. When it restarts, the thunder sound is heard. Turns out the user installed a weather-tracking program that notified him whenever a weather alert was available – with a thunder sound. When I told him about the problem, the user responded, 'I guess that's why you don't allow users to install software, so you don't waste your time, huh?' "

No Thanks

Remote user has a big e-mail list and sends out a newsletter once a month from home. "The list is completely opt-in," says a pilot fish at the main office, "but as aggressive as antispam measures are becoming these days, his ISP cut off his connection anyway. So he wrote to me, telling me that he wants remote access to the corporate mail server so he can send his mass mailing through that server instead. Apparently, he wasn't satisfied with getting just his own service cut off; he wanted to try for an encore by seeing whether he could get the entire organization's e-mail cut off as well!"

All Plugged Up

Two sales VPs share an office because they're rarely in town at the same time. One day, one of them calls this pilot fish because the printer won't work. "I check his laptop to make sure the printer is installed, then start checking the connections," says fish. Everything is plugged to – but not quite correctly. "After I moved the printer's USB cable out of the mouse's USB-to-PS/2 connector and plugged it into a USB port, everything worked fine," fish reports. "But neither sales VP has owned up to the errant connection."

Special Delivery

This pilot fish is three months into a mainframe job, having never worked with mainframes before. But he's got a more pressing concern: the birth of his first child. "As my wife approached the intense part of her labor, the phone in the delivery room rang. Thinking it was a family member, I answered it. It was a senior programmer at work. He already knew the answer to the minor problem he was calling about but wanted to point out my mistake. Needless to say, I was not allowed to touch the phone for my second daughter's delivery."

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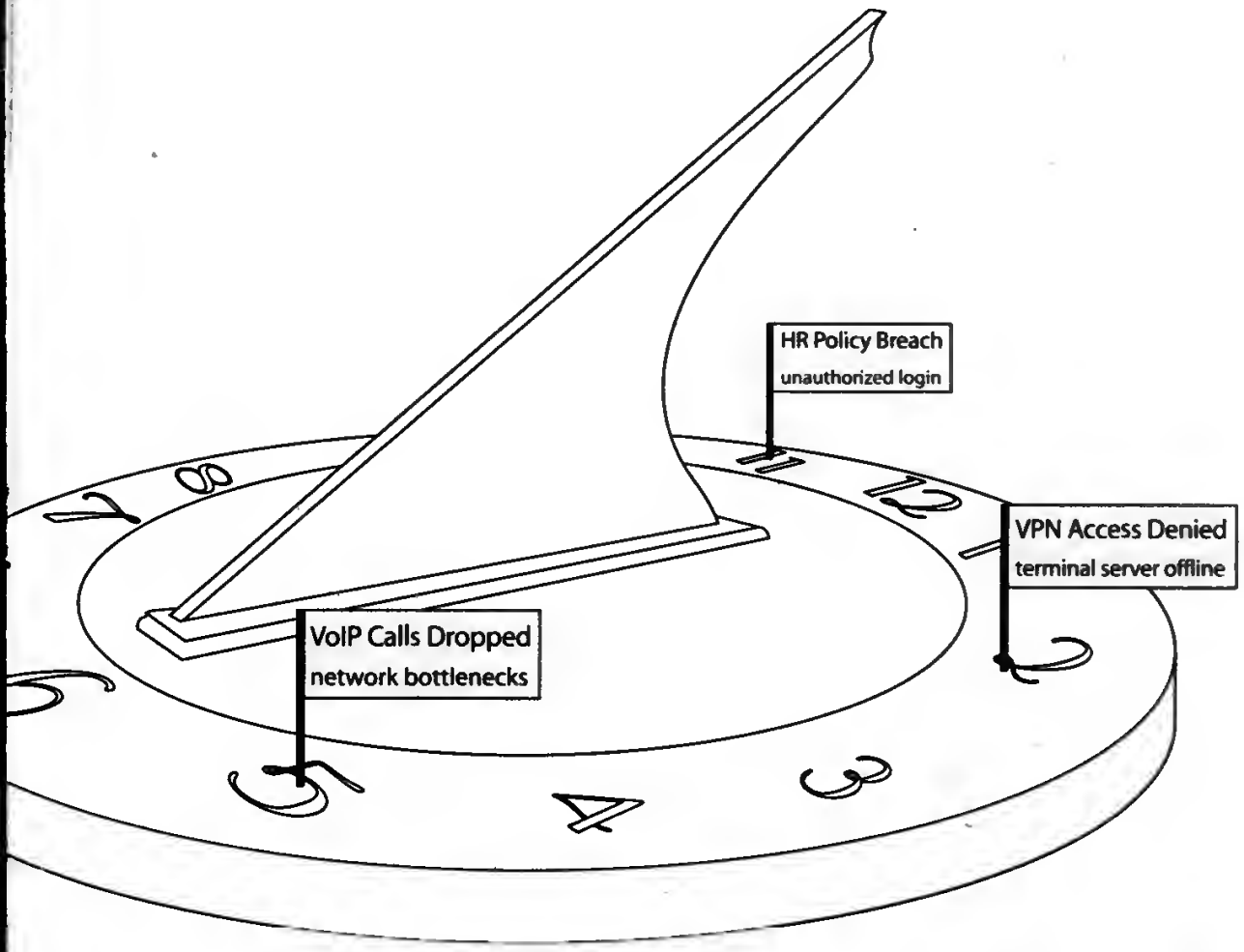

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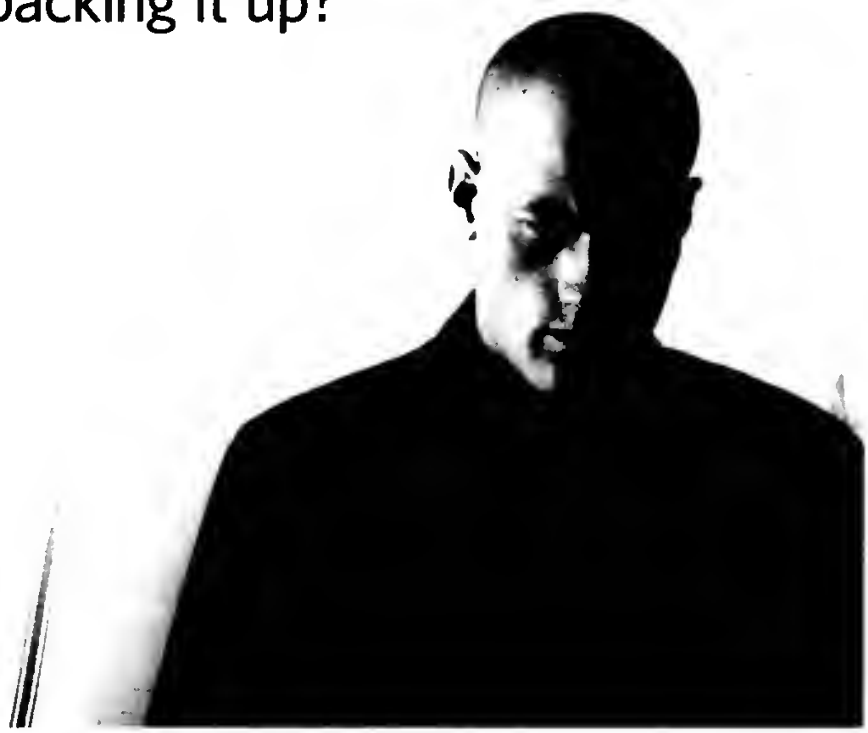
Your information is your business. So, who's backing it up?



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